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NINTH ANNUAL REPORT

OF THE

State Board of Health

OF

INDIANA,



FOR THE

Fiscal Year Ending October 31, 1890.

TO THE GOVERNOR.

INDIANAPOLIS:

WM. B. BURFORD, CONTRACTOR FOR STATE PRINTING AND BINDING.
1891.

THE UNIVERSITY OF CHICAGO

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THE UNIVERSITY OF CHICAGO

THE STATE OF INDIANA,
EXECUTIVE DEPARTMENT,
INDIANAPOLIS, January 2, 1891. }

Received by the Governor, examined and referred to the Auditor of State for verification of the financial statements.

OFFICE OF AUDITOR OF STATE,
INDIANAPOLIS, January 7, 1891. }

The financial part of the within report, so far as it relates to moneys drawn from the State Treasury, has been examined and found correct.

BRUCE CARR,
Auditor of State.

Returned by the Auditor of State, with the above certificate, and transmitted to the Secretary of State for publication, upon the order of the Board of Commissioners of Public Printing and Binding.

WILLIAM B. ROBERTS,
Private Secretary.

Filed in the office of the Secretary of State of the State of Indiana January 10, 1891.

CHARLES F. GRIFFIN,
Secretary of State.

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REPORT OF BOARD.

Hon. Alvin P. Horey, Governor of Indiana:

In accordance with the provisions of the statute we have the honor to submit herewith our Ninth Annual Report, for the fiscal year ending October 31, 1890.

We again congratulate the people of the State because of a year of good health, which was in some respects better than the one which preceded it. Although this has been the case it is nevertheless true that contagious diseases which are in a great measure preventable, are always present in the State. It is equally true that in nearly all cases such diseases have been better managed and more successfully controlled the past year than ever in the history of the State, and that this result is due to better organization and consequently better results by health boards.

Local boards of health and the people are becoming better informed concerning the principles of preventive medicine. Statistics at home prove incontrovertibly that the number of deaths from contagious and infectious diseases is gradually decreasing, though not as rapidly as they would were the rules and regulations of boards of health more rigidly enforced. The failure to enforce these rules is almost always due to negligence on the part of boards of health, as the people generally manifest a disposition to comply with any reasonable demands made upon them in matters that relate to the prevention of disease.

The work of the board since its organization has been unremitting and the results are such as to afford cause for congratulation and fully justify the wisdom of the Legislature in establishing the same. The effects of this work are not observed by the general public, and is largely done in separate localities, so that the full measure of good accomplished can not

be seen from a single standpoint. It is plainly noticeable that the work of sanitary societies and officers are each year better appreciated, as their objects become better understood and the results of their work are more clearly seen.

The board last year adopted a series of rules and regulations for the government of station agents and baggagemen in receiving and transferring dead bodies. These rules forbid the shipment of bodies dead from certain diseases, and in certain other cases shipment only is permitted by complying with certain conditions intended to prevent the spread of contagious diseases. By securing the aid of railroad officials these rules are rigidly enforced throughout the State.

The Act to prevent the adulteration of vinegar, approved March 5, 1889, has been the means of banishing from the market a number of spurious and injurious so called vinegars, and placed in their stead the pure article. County health officers have been instructed to cause the enforcement of the provisions of the act in their localities, and no good reason exists why any vinegar should be permitted to be sold which is not up to the standard required by the law.

During the latter part of last year and the first of this year La Grippe or Russian influenza made its appearance and swept over the entire State. While the mortality directly traceable to the disease was comparatively light, yet the effect of it was such as to leave the system of the victim in such a debilitated condition that many deaths occurred from sequelae of the attack. An effort was made to get complete statistics concerning the disease, but owing to the fact that but few physicians (from whom the information was sought to be obtained) had any data at hand from which to give accurate information, sufficient reports are not available to make any estimates from which valuable deductions could be made. Only about 400 deaths are reported from this cause, which number is doubtless too small, but the exact number can not be known. Following is a report from J. F. Hibberd, M. D., Secretary of the Wayne County Board of Health, which I believe is as nearly correct as could be obtained under all the circumstances, and might be applied to other portions of the State:

LA GRIPPE.

To the Editor of the Paladium :

About the middle of March the State Board of Health inaugurated an effort to obtain statistics concerning the extent of the late epidemic of influenza—La Grippe—in the State of Indiana. Pursuant to this purpose the board forwarded to me blanks for the uniform record and return of the experience of each medical practitioner in the county, with instructions to distribute them to the active practitioners with the request that the blanks be filled up and returned to me.

I have completed my labors in this behalf and made my report to the State Board.

The whole number of cases reported to me was 7,396, and of these 3,909 were reported by the practitioners of Richmond, leaving 3,487 for the remainder of the county.

There is no pretense by any reporter that he has been able to give the exact number of cases prescribed for by him, because no one claims to have kept a record for the purpose, but each claims to have made the most accurate record possible from the data in hand.

Assuming the population of Wayne county to be 43,000, the returns imply that about one person in six of the population of the county had an attack of gripe: and assuming 20,000 as the population waited on by Richmond, the returns imply that one person in about five was attended for gripe. And by the same data the gripe attacked one person in 6.6 of the population of the county outside the professional jurisdiction of the Richmond practitioners.

The popular idea is that a much larger proportion of the citizens of the county were victims of the epidemic than is indicated by the foregoing figures, and doubtless no inconsiderable number of persons had a turn of the malady and recovered by virtue of home medication or patiently awaiting the restorative power of nature. What the real number of such persons was can only be conjectured, but it would not seem extravagant to estimate that one in four of our people suffered from gripe, that is about 10,750 persons in Wayne county had an attack of influenza during the late epidemic.

JAMES F. HIBBERD, M. D.,

Richmond, April 29, 1890.

H. O., Wayne County.

P. S.—If one may indulge in speculative figures one might estimate that these 10,750 people averaged each five days of illness, or an average of 53,750 days of suffering; and if one-half of those who were sick were bread winners whose income averaged one dollar per day, the loss would be \$26,875; and if the doctor bills and other expenses incident to the illness equaled one dollar per day for each person, the amount would be \$53,750, making a grand aggregate of \$80,625 as the measure of the financial misfortune of the people of Wayne county on account of La Grippe.

J. F. II.

Assuming that the foregoing "speculative figures" are approximately correct, and we make the application to the entire State, the population being upwards of two millions, the financial loss to Indiana by virtue of this malady was a little more than three million five hundred thousand dollars (\$3,500,000).

The act regulating the practice of medicine has been the means of elevating the standard of qualifications of practitioners and driven many quacks from the State or compelled them to abandon business. According to its provisions, however, a license is required by each physician for every county in which he desires to practice. This in many instances works hardships, and we believe the law should be so amended that a license issued in one county will entitle the possessor to practice in any or all the counties in the State.

We would respectfully urge upon the Legislature the necessity of passing a law requiring all passenger coaches to be heated by steam. The reason for this is apparent to every one who has given the subject any thought and has noticed the loss of life frequently caused in case of accident from stoves by setting cars on fire and burning helpless victims.

We again call attention to the fact that the number of reports printed for this board (3,000) is entirely inadequate to the demand and should be increased to at least 5,000.

The penal and benevolent institutions are from time to time visited and their sanitary condition closely scrutinized by the board. Because of this oversight and their efficient management they are generally kept in the best possible condition. Considering the character of the inmates, they are kept in much better condition than might be expected. The board

caused a sanitary inspection to be made of the County Poor Asylums and Jails, a summary of which is given elsewhere in this report. When the board first assumed oversight of these institutions many of them were found in a condition which was a disgrace to our civilization. Males and females, old and young, were in some cases indiscriminately housed and the legitimate results of such associations were plainly manifested. Then, as now in a few cases, Superintendents were selected without any reference whatever to necessary qualifications for such positions. Great improvements have been made, however, in these particulars, and now these places of refuge for the poor have been made more comfortable, and men better adapted to the positions have been selected to superintend them, so that they compare favorably with similar institutions in other States.

Quarterly reports of marriages, births and deaths have been received regularly from counties, with a single exception. These reports are not as complete as they ought to be. Several causes operate to make them so. The principal one is that county health officers are in many instances chosen from a number who present competitive bids for the position, and "the lowest and best bidder" is selected by the County Commissioners.

It frequently happens that the salary thus paid is a mere pittance, and the successful competitor renders service commensurate with the amount received. The evil can only be remedied by paying a reasonable compensation for the work done and select the best material at hand. We are fully convinced that a stipulated salary should be fixed for these officers, as well as for all others, and that the appointing power should be vested in this board, as well as the power of removal in case of failure to perform the duties required by law. Their excuse for not making them is that they are not paid for the work and therefore not compelled to do so. This opinion is prevalent, notwithstanding eminent legal authorities have held that "the duties imposed by the statute and the penalty for its violation are within the police power of the State, and the statute is constitutional and valid. The statute confers on a physician certain privileges, and may impose corresponding duties."

It is further said: "We need not inquire whether the provisions of the statute are unjust or oppressive. These matters are for the consideration of the legislative department of the

government. We may observe that it is difficult to discover oppression or injustice in requiring the medical profession to make known to the world statistics which may promote and are promoting the public health." "A physician should honestly endeavor to obtain and report all information required by the regulations of the statute, and the Board of Health."

In some instances county health officers, when interrogated upon the subject, admit that some physicians are not reporting as required, but refuse to enforce the law because they "do not wish to offend their professional brethren." It is useless to say that such an excuse is puerile, and unworthy one who has assumed the duties of the office with the implied agreement that he will perform all the duties required of him. If he fails to do his duty he ought to be superseded at once by one who has the courage to require compliance with all the duties pertaining to the position.

The Board is of the opinion that a laboratory should be established in connection with one of the State Institutions for the study of bacteriology.

It has frequently occurred in the past that analysis of water from different localities suspected of containing impurities, should be made, but the Board being without apparatus for that purpose was compelled to refuse to make analysis or procure it done at heavy expense. Until provisions can be made for such analysis by this Board, counties must bear the necessary expense themselves.

In relation to the collection of vital statistics, the following from the Twelfth Annual Report of the Wisconsin State Board of Health is applicable to this State:

Attention has been called in previous reports to the lack of an effective system for collecting and recording the facts relating to the life and death of the individual citizen in our State, and the increasing need for the adoption of such method, to the end that these important points in connection with the individual may be recorded as to be susceptible of legal establishment at any time should necessity arise. Two instances have been recently brought to our notice which go to show this defect in our registration methods in a strong light, and it is probable that there are many others similar in kind, within the knowledge of persons occupying official positions. Both cases were very similar and one which will serve to illustrate

the position arose in connection with an application for a pension on the part of a woman whose husband was killed during the war, or who died of injuries received therein. In the course of the proceedings it became necessary to establish the fact of marriage. The ceremony had been performed by a justice of the peace who had long since retired from office, and who had no recollection whatever of the fact, but declared no doubt truly that if he performed the ceremony at the time indicated he made an entry thereof on his docket, which he afterwards transferred to his successor. No further record has been made of the fact, and in the course of years the docket was lost, and no trace of it is now to be obtained, though diligent search has been made by the parties interested and by the woman's friends. No written record existing, the next attempt was to prove the marriage by the evidence of witnesses present thereat, but none could be found, and after all other means had been exhausted, all that remained to be done was to fall back upon such evidence as could be obtained to the effect that, prior to the husband's entrance into the service of the United States, the fact that the marital relation existed was generally known and admitted without question among the friends, relatives and immediate neighbors of the two persons directly concerned. This course was taken under legal advice, but what the result will be is not known.

For obvious reasons it is with births and deaths that boards of health are chiefly concerned. It is by the collection and comparison of data such as bills of mortality only can supply, that the sanitarian is enabled to study the causes that underlie the origins of disease; by showing exactly the points where preventable disease of any kind is prevalent, such returns enable central boards to give information which will make it possible for local authorities to act intelligently and efficiently in the prevention of sickness in the first instance, and in restricting it to the narrowest practicable limits in the event of its obtaining an entrance.

The health officer of a city of considerable importance writes: "I can not give you statistics of death from any kind of disease." This city which boasts itself of the number of its inhabitants, its Young Men's Christian Association, its social clubs and business men's rooms, such a city has no system of mortuary records from which statistics can be drawn, and the

local board refused to recommend to the Common Council the adoption of an ordinance requiring certificates of death and a system of burial permits based on such certificates, assigning as a reason sufficient for refusal that it is too much red tape connected with so sacred a thing as death and burial."

The importance of keeping correct and complete records by the County Health officers can not be overestimated. Numerous instances have come under our observation which go to confirm this view. Quite frequently inquiries are made and certified copies of death sought by relatives of deceased soldiers, to be used in the matter of pension claims and in the settlement of estates. Too much care can not be exercised on the part of the proper officers, to have the records properly made and indexed so that easy reference can be made at any time that occasion may require, and this record should be "open to the inspection of any visitor without fee."

The Board regards the following "suggestions" in regard to legislative action as important:

1. Requiring burial permits in all cases of death in the State, so that correct mortuary statistics can be obtained.

2. Providing by fees or salary for the payment of County Health officers, and providing a penalty for the non-performance of duty.

3. Vesting the appointing power and removal of County Health officers in the State Board of Health.

4. An increase in the number of annual reports.

5. Providing for a contingent or epidemic fund, under the control of the Governor or other authority, provided for by legislative enactment, to be used in cases of emergency.

6. Providing for the building of abattoirs and preventing the slaughtering of animals elsewhere, and for inspectors of cattle to be used for food, before and after killing.

FINANCIAL EXHIBIT.

The following is a statement of the receipts and expenditures for the fiscal year, commencing November 1, 1889, and ending October 31, 1890. All accounts have been submitted to the board for its consideration at its regular meetings, and when allowed have been certified to by the President and Secretary, and audited by the Auditor of State, before warrants were drawn for the same.

Out of the annual appropriation of five thousand dollars to carry on the work of this department, the members have been paid all actual expenses incurred by attending regular and special meetings of the board, as well as expenses caused in making sanitary inspections of various sections and the different public institutions under the control of the State government. Reports of inspections made by members of the board will be found in another part of this report. From our fund we pay the current expenses of the office, the Secretary's and clerks' salaries, printing bills, including all publications of the board, except the annual report.

The board supplies all the town, city and county health boards with physicians' blanks for the return of births, deaths, contagious and infectious diseases, County Clerks for the returns of marriages, and furnishes county boards of health with blanks to make regular quarterly reports, as well as blanks for special reports of contagious and infectious diseases, blank transit permits for the transportation of dead bodies, and blank certificates for undertakers, preventable disease circulars for general distribution among the people, the rules and regulations of the board for the government of physicians and health officers, programs, and all necessary printing for sanitary conventions held in the State; also printed postal cards on which health officers and physicians in the different parts of the State make weekly reports to this board of the prevalence of all preventable diseases, and blanks for the sanitary inspection of school houses, poor asylums and jails. Within the year we printed and distributed to the physicians of the State blanks for the purpose of collecting statistics relating to the cause and prevalence of the "La Grippe" epidemic. After paying all bills contracted during the year we find that the amount appropriated for this department has been entirely exhausted.

FINANCIAL EXHIBIT.

By appropriation \$5,000 00.

DISBURSEMENTS.

Nov. 11, 1889,	J. N. Taylor, traveling and hotel ex- penses....	6 85
" 11,	C. N. Metcalf, traveling and office ex- penses.....	5 85
" 26,	Wm. Wallace, postage.....	30 00
Dec. 1, 1889,	D. N. Berg, salary.....	83 33
" 1,	F. M. Stewart, salary.....	50 00
" 1,	P. J. Gorman, salary.....	50 00
" 1,	S. W. Burns.....	8 00
" 15,	F. M. Stewart.....	25 00
Jan. 3, 1890,	S. W. Burns, salary	8 00
" 3,	C. N. Metcalf, traveling and office ex- penses	37 15
" 3,	D. N. Berg, salary.....	83 33
" 3,	J. F. Edwards, Annals of Hygiene....	2 00
" 3,	Lee Holtzman, livery.....	4 00
" 3,	W. B. Burford, printing and stationery	341 65
" 3,	J. N. Taylor, traveling and hotel ex- penses	124 85
" 3,	C. N. Metcalf, salary.....	200 00
" 3,	S. S. Boots, traveling and hotel ex- penses	11 40
" 3,	P. J. Gorman, salary	50 00
" 3,	Mrs. C. N. Metcalf, salary.....	33 34
" 16,	C. N. Metcalf, traveling and hotel expenses..	6 85
Feb. 1, 1890,	P. J. Gorman, salary.....	50 00
" 1,	S. W. Burns, salary	8 00
" 1,	D. N. Berg, salary.....	83 33
" 1,	Mrs. C. N. Metcalf, salary.....	50 00
" 19,	Wm. Wallace, postage	30 00
" 28,	J. N. Taylor, traveling and hotel expenses.....	6 85
Mar. 1, 1890,	Mrs. C. N. Metcalf, salary.....	50 00
" 1,	D. N. Berg, salary	83 33

March	1, 1890,	P. J. Gorman, salary.....	\$50. 00
"	1,	S. W. Burns, salary.....	8 00
April	2, 1890,	P. J. Gorman, salary.....	50 00
"	2,	D. N. Berg, salary.....	83 33
"	2,	Mrs. C. N. Metcalf, salary.....	50 00
"	2,	S. W. Burns, salary.....	8 00
"	2,	C. N. Metcalf, salary.....	300 00
"	10,	J. N. Taylor, traveling and hotel expenses.....	6 85
"	10,	C. N. Metcalf, traveling and hotel expenses.....	65 74
"	10,	W. B. Burtford, printing and stationery.....	153 62
May	1, 1890,	P. J. Gorman, salary.....	50 00
"	1,	D. N. Berg, salary.....	83 33
"	1,	Mrs. C. N. Metcalf, salary.....	50 00
"	1,	S. W. Burns, salary.....	8 00
"	2,	Wm. Wallace, postage.....	30 00
"	31,	D. N. Berg, salary.....	83 33
"	31,	S. W. Burns, salary.....	8 00
"	31,	Mrs. C. N. Metcalf, salary.....	50 00
"	31,	P. J. Gorman, salary.....	50 00
"	31,	D. N. Berg, salary.....	83 33
July	1, 1890,	P. J. Gorman, salary.....	50 00
"	1,	D. N. Berg, salary.....	83 33
"	1,	J. N. Taylor, traveling and hotel expenses.....	6 85
"	1,	S. S. Boots, traveling and hotel expenses.....	19 50
"	1,	J. A. J. Cutting, Sentinel.....	7 80
"	1,	C. N. Metcalf, salary.....	300 00
"	1,	S. W. Burns, salary.....	8 00
"	1,	J. F. Hibberd, dues Nat. Conference.....	10 00
"	1,	Mrs. C. N. Metcalf, salary.....	50 00
"	1,	C. N. Metcalf, traveling and hotel expenses.....	25 30
Aug.	1, 1890,	C. N. Metcalf, salary for July, 1890....	100 00
"	1,	C. N. Metcalf, traveling and hotel expenses.....	21 15
"	1,	P. J. Gorman, salary.....	50 00
"	1,	S. W. Burns, salary.....	8 00

Aug.	1, 1890,	Mrs. C. N. Metcalf, salary.....	\$50 00
"	1,	D. N. Berg, salary	83 33
Sept.	1, 1890,	C. N. Metcalf, salary.....	100 00
"	1,	Mrs. C. N. Metcalf, salary.....	50 00
"	1,	D. N. Berg, salary.....	83 33
"	1,	P. J. Gorman, salary.....	50 00
"	1,	S. W. Burns, salary.....	8 00
"	20,	D. N. Berg, traveling and office ex- penses	32 00
"	25,	Carlson & Hollenbeck, office supplies.	18 25
"	25,	Indianapolis Sentinel Co., 3 copies daily Sentinel 1 year.....	18 00
"	25,	W. B. Burford, postage.....	40 00
"	25,	Indianapolis Journal 3 copies 1 year daily.....	32 40
"	25,	C. N. Metcalf, traveling and office expenses.....	15 85
"	25,	J. N. Taylor, traveling and hotel expenses.....	38 50
"	25,	S. S. Boots, traveling and hotel ex- penses.....	11 40
Oct.	1, 1890,	C. N. Metcalf, salary.....	100 00
"	1,	D. N. Berg, salary.....	83 33
"	1,	S. W. Burns, salary.....	8 00
"	1,	P. J. Gorman, salary.....	50 00
"	1,	Mrs. C. N. Metcalf, salary	50 00
"	29,	W. B. Burford, printing and station- ery.....	212 12
"	29,	C. N. Metcalf, traveling and hotel expenses.....	31 00
"	29,	S. S. Boots, traveling and hotel ex- penses.....	21 50
"	29,	J. N. Taylor, traveling and hotel ex- penses.....	6 85
"	29,	Wm. Wallace, postage.....	19 18
"	29,	C. N. Metcalf, salary.....	100 00
"	29,	D. N. Berg, salary	83 37
"	29,	S. W. Burns, salary.....	8 00
"	29,	P. J. Gorman, salary.....	50 00
"	29,	Mrs. C. N. Metcalf, salary.....	50 00
Total.....			<hr/> \$5,000 00

LIBRARY.

The Library embraces a collection of works by recognized authorities on diseases of domestic animals, bacteria, cholera, drainage, ventilation, heating, food, hygiene, preventive medicine, sanitary science, sewers and sewage, small-pox, suicide, typhoid fever, water, zymotic diseases and miscellaneous works.

Health officers, physicians or other responsible parties desiring to pursue the study of sanitary subjects and matters relating to public health: or wish to investigate subjects of interest to this department, or to use them in discussions before societies or conventions interested in the advancement of sanitary science, can obtain the loan of any of these works by complying with the following terms:

1. Application must be made in writing. Said application must be endorsed by the Health officer nearest the party making the application.

2. No more than one book shall be loaned to the same person at the same time.

3. The term for which a book may be loaned shall not exceed three weeks, but at the end of that time a renewal for two weeks more may be granted on application.

4. When a book is loaned the Secretary shall enter upon record the name of the borrower, the title of the book, date of loan, etc.

The following is a complete catalogue of books belonging to the Library:

AMERICAN HEALTH PRIMERS, TITLED AS FOLLOWS.

Brain Work and Overwork	Wood.
Eyesight, and How to care for it	Harlan.
Hearing, and How to Keep it	Keen.
Long Life and How to Reach it	Richardson.
Our Homes	Hartshorn.
Sea Air and Sea Bathing	Packard.
School and Industrial Hygiene	Lincoln.
Summer and its Diseases	Wilson.
The Mouth and the Teeth	White.
The Skin in Health and Disease	Bulkley.
The Throat and the Voice	Cohen.
Winter and its Dangers	Osgood.

APPLETON'S HEALTH PRIMERS.

Baths and Bathing.
 Exercise and Training.
 Personal Appearances.
 Premature Death, Its Promotion or Prevention.
 The House and its Surroundings.
 The Heart and its Functions.
 The Nervous System.
 The Skin and its Troubles.

ANIMALS AND THEIR DISEASES.

Actinomykosis.....Fleming.
 Animal Diseases and Their Relation to
 Public Health.....Billings.
 Animal Plagues (2 vols.).....Fleming.
 Animal Parasites of Sheep.....Curtice.
 Contagious Diseases of Cattle.....Fleming.
 Contagious Diseases of Domestic Ani-
 mals.....U. S. Bureau.
 Diseases of Live Stock.....Teller.
 Human and Animal Variola.....Fleming.
 Lung Plague Among Cattle.....Law.
 Veterinary Science.....Williams.

BACTERIA.

Bacteria.....Maguire.
 Bacteria and the Germ Theory.....Gradle.

DRAINAGE.

Agricultural Drainage.....Denton.
 Drainage.....Gerhardt.
 Drainage for Health.....Wilson.
 Farm Drainage.....French.
 House Drainage and Water Sewers.....Bayliss.
 Land Drainage.....Reeves.
 Our Homes.....Murphy.

FOOD.

Food and Poisons.....Blythe.
 Health in Diet.....English Conference.

HYGIENE.

Bazar Book of Health.....	Harper.
Bible Hygiene	By a Physician.
Hand Book of Hygiene.....	Wilson.
Health in Relation to Civic Life	English Conference.
How to Live.....	Wilson.
Hygiene and Public Health (2 vols).....	Buck.
Health	Corfield.
Maintenance of Health.....	Forthergill.

PREVENTIVE MEDICINE.

Eyesight, Good and Bad.....	Carter.
Dangers to Health.....	Teale.
Preventive Medicine.....	Richardson.
Seven Sources of Health.....	Strange.

SANITARY SCIENCE.

American Sanitary Engineering.....	Philbrick.
Dwelling Houses.....	Corfield.
Hand Book of Sanitary Science.....	Marsh.
Health in the Dwelling	English Conference.
House Sanitation.....	Denton.
Mechanics of Ventilation.....	Rafter.
Sanitary Care and Treatment of Children.....	Anderson and Jacobi.
Sanitary Construction of Dwellings.....	Corfield.
Sanitary Condition of Houses	Waring.
Sanitary Engineering.....	Latham.
Sanitary Plumbing.....	Heyler.
Sanitation, The.....	Bell.
Steam Heating.....	Waldron.
Ventilation and Warming.....	Drysdale and Hayward.
Ventilation.....	Leeds.
Ventilation.. ..	Billings.
Ventilation of Buildings	Butler.

SEWERS AND SEWAGE.

Disposal of Sewage.....	Robinson.
Sewers and Drains.....	Adams.

Sewers and Gases.....	Devarona.
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American Public Health Association: Dr. Irving A. Watson, Secretary, Concord, New Hampshire.

Sanitary Counsel of the Mississippi Valley: Dr. John H. Rauch, Secretary, Springfield, Illinois.

National Conference State Boards of Health: Dr. C. A. Lindsley, Secretary, New Haven, Connecticut.

STATE.

Alabama.....	Jerome Cochrane.....	Montgomery.
California.....	G. G. Tyrell.....	Sacramento.
Connecticut.....	C. A. Lindsley.....	New Haven.
Delaware.....	E. B. Frazer.....	Wilmington.
Florida.....	Joseph Y. Porter.....	Jacksonville.
Illinois.....	John H. Rauch.....	Springfield.
Indiana.....	Charles N. Metcalf.....	Indianapolis.
Iowa.....	R. J. Farquharson.....	Des Moines.
Kansas.....	J. W. Redden.....	Topeka.
Kentucky.....	J. N. McCormack.....	Bowling Green.
Louisiana.....	L. F. Saleman.....	New Orleans.
Maine.....	A. G. Young.....	Augusta.
Maryland.....	C. W. Chancellor.....	Baltimore.
Massachusetts.....	S. W. Abbot.....	Boston.
Michigan.....	Henry B. Baker.....	Lansing.
Minnesota.....	C. N. Hewitt.....	Red Wing.
Mississippi.....	Wirt Johnson.....	Jackson.
Missouri.....	George Homan.....	St. Louis.
New Hampshire.....	Irving A. Watson.....	Concord.
New Jersey.....	Ezra M. Hunt.....	Trenton.
New York.....	Louis Balch.....	Albany.
North Carolina.....	Thos. F. Wood.....	Wilmington.
Ohio.....	C. O. Probst.....	Columbus.

Pennsylvania	Benjamin Lee.....	Philadelphia.
Rhode Island	Charles H. Fisher... ..	Providence.
South Carolina.....	Henry D. Frazer.....	Charleston.
Tennessee	J. Berrien Lindsley.....	Nashville
Texas.....	R. Rutherford.....	Houston.
Vermont	C. I. Allen.....	Rutland.
West Virginia	Thomas A. Harris.....	Parkersburg.
Wisconsin.....	J. T. Reeve.....	Appleton.

CENTRAL HOSPITAL FOR THE INSANE.

This institution is located on the National road, a few miles west of Indianapolis, on an elevated piece of ground containing about one hundred and seventy-five acres of land, which is well shaded and has fine natural drainage.

The buildings are of brick, strongly built, large and commodious, capable of accommodating about seventeen hundred and fifty persons.

The buildings are well heated, ventilated, and properly provided with fire protection. The institution has a well drilled fire department, provided with the latest and best apparatus used for the extinguishment of fires. The officers and attendants are genial and obliging, always willing to show the entire system of management in detail.

The inmates in no way show evidence of bad treatment, but on the contrary, from their general appearance bear unquestionable evidence that they are well cared for and that the treatment they receive is good in every particular.

The food which is furnished them, consisting of bread, beef, pork, mutton, butter, eggs, vegetables of all kinds, groceries and delicacies of the season, was found to be wholesome, well prepared, and of the very best quality.

None of the patients are kept under restraint; this barbarous practice was abolished several years ago. The inmates all appear clean and well clothed.

Every day that the weather permits, they are taken out on the grounds for exercise, and to receive the beneficial effects of the fresh air and sunlight, under the protection of capable attendants, who are always watchful of those under their care.

When we consider the class of inmates which the management has to care for, the clean condition in which every ward and room is kept is all the more commendable. Every bed is kept clean and well provided with proper clothing.

The water closets and bath rooms in the female department are perfectly free from foul odors, having cement floors which are easily cleaned.

In the old building or male department, the water closets, urinal and bath rooms have wooden floors, which in places have become soaked with urine and other befouling liquids which have unavoidably been deposited on them; consequently the odor of decomposing matter is always present in these places. Although disinfectants are liberally used, an offensive smell can always be detected upon entering the rooms.

The plumbing in the latter department, which is more or less ancient in design and workmanship, should be repaired, and what we think would be still better, would be to remove it entirely.

Towers or annexes, properly provided with means of ventilation, should be built, extending up the outside of the building, convenient to the various wards, in which all water closets, urinals, slop sinks and bath tubs should be placed. Such arrangements would remove all dangers from sewer gas, which might escape through defective plumbing. We do not approve of the location of water closets and urinals within the foundation walls of an institution of this character; their place is in a special structure, built outside the walls of the main building.

ASYLUM FOR THE BLIND.

The institution for the education of the blind is located in the city of Indianapolis, within five squares of the Governor's Circle.

The new building, for which the last General Assembly appropriated eleven thousand dollars to construct, is now nearly finished, and will soon be ready for occupancy.

When it is completed the Superintendent will be able to admit a large number of unfortunates who heretofore have been denied the privilege of obtaining an education, and the opportunity of learning a trade by the possession of which they could make a living.

Formerly many of them, from necessity, were obliged to rely on public charity for support.

The history of this institution shows that it has always been one of the best conducted in the State. At all times its sanitary condition has been found to be first-class. The rooms are always kept clean, well heated and ventilated.

The beds are clean and supplied with sufficient and proper bedding. The inmates are suitably and comfortably clothed.

The food supplied is abundant, wholesome and well cooked.

The children, when not attending school, are employed in some useful manner, such as making brooms or caning chairs.

The system of plumbing and house drainage as perfected in this institution, is a model and should be patterned after by the management of the other public buildings in the State, as it is first-class in every respect.

Within the foundation walls nothing is used for the purpose of drainage except extra heavy, porcelain-lined iron drain pipes, properly laid with joints made safe by being perfectly calked.

All earthenware drain pipes have been removed. All connection between water closets, sinks, bath rooms and drains have been made with the best quality of heavy, durable piping.

The soil and waste pipes from every water closet, sink and bath room are properly trapped and ventilated.

All traps, soil pipes and drains have been provided with clean-outs securely sealed. This precaution has been taken so that the traps, pipes and drains can be cleaned should they become stopped up at any time with refuse matter which might be accidentally or intentionally thrown into the water closets by the children or careless attendants.

The soil pipes extend up through the roof of the building and are furnished with fresh air inlets. The vent pipes form traps, and water closets enter the soil pipes, above the highest fixtures.

In its completeness we consider it a perfect job.

INSTITUTION FOR THE EDUCATION OF THE DEAF AND DUMB.

This institution is located on an elevated, well-shaded piece of ground, just east of the corporate limits of the city of Indianapolis.

The buildings are of brick, substantially built, large and commodious. They are heated with natural gas, which insures a constant and uniform temperature in the coldest weather.

The new school building which was in process of construction when our last report was written, has been completed within the year.

The completion of this building has given the management sufficient room to accommodate a large number of unfortunates who had heretofore been deprived the privilege of obtaining an education.

The many small rooms which were formerly used as school rooms, can now be converted into sleeping rooms, which will afford accommodation to those seeking admission, as well as to relieve the over-crowded condition of the dormitories, which has existed for years. The sanitary condition of the institution has been much improved within the past few years, by a thorough overhauling of the plumbing and house drainage. All old worn-out and dilapidated soil pipes, water closets and bath tubs, have been replaced with new ones. However, we can not say that this system of house drainage is first-class for the reason that most of the water closets and bath rooms are located in the center of the buildings.

While the management was having the system repaired, they should have built an annex at the end of each building in which to put the water closets, bath rooms, slop sinks, etc. They could be constructed so that they could be easily and thoroughly ventilated, either by ventilating flues or windows placed on each side of the annex. They could also be completely shut off from the rest of the buildings, by means of good close fitting doors, and in this way the dangers to be feared from sewer gas would be avoided.

The time has come when water closets and bath rooms located in the center of an inhabited building as they are here, should be forbidden, and looked upon as a "relic of an ignorant age."

It makes no difference how well they may be built with all modern improvements, they are constantly getting out of order and too often the cause of serious sickness.

The water supply of the Institution is abundant and pure, and is obtained from a deep driven well, located where there is no danger from surrounding nuisances.

The number of pupils in the Institution averages about three hundred and thirty-five, ranging in ages from eight to twenty years, and are educated in the various branches taught in our public schools.

The boys are given an opportunity to learn different trades, such as shoemaking, cabinet-making and printing.

The girls are taught to do plain sewing and fancy needle work.

They are suitably and comfortably clothed. The food is of a substantial and wholesome character, supplied in liberal quantities, and is well cooked.

STATE PRISON NORTH.

In July a committee appointed by this Board visited and inspected the State Prison located at Michigan City. The cell houses are large, well heated, lighted and ventilated, and the prisoners' sleeping apartments are comfortable. Within the year the management have purchased and put in operation an "Incandescent Electric Light Plant" and by this means the buildings and cells are thoroughly lighted. The pleasure and comfort which this affords the prisoners can be appreciated when it is understood that heretofore the only lights they were allowed in their cells was such as could be obtained from the flame of a burning candle. The inmates are furnished an abundance of good, wholesome food, well cooked, served on clean tables and dishes in a comfortable dining hall.

The sanitary surroundings of the premises and the hygienic condition of the prisoners are good. The contents of the night buckets are thrown into night soil sinks, which are in direct communication with the prison sewer by means of connecting pipes, which are not trapped. While an abundance of water is used in washing out the night buckets, and flushing the sinks, there is always present an offensive smell which could be avoided by replacing these sinks with an apparatus similar to

that devised by Warden Patton, and now in use in the Southern Prison, in which the night soil could be dumped and vessels washed, which the committee hereby recommend.

Much sickness and a large death rate would naturally be expected in an institution of this character, where they are obliged to receive the class of inmates they do, many of whom are broken down in health from dissipation and constitutional diseases, but such is not the case at this place. Fifteen deaths out of an average of seven hundred and fifty inmates is a very small death rate when the condition and character of the inmates are taken into consideration.

At the time this inspection was made there were several insane prisoners who were confined in cells located in the house building, for the want of a better place to keep them. A house should be built outside and away from the others for the reception and care of this class of inmates, as their maniacal ravings must be a source of constant disturbance and annoyance to the other prisoners, who are obliged to visit this building every week for the purpose of bathing. We would also suggest that a separate building be constructed for the reception and treatment of those sick with general diseases, as the rooms now used as a hospital are not properly located nor arranged for the purpose for which they are used, and we condemn it as not a fit place for the care of the sick, as it is contrary to all rules of sanitation. It can never be recognized as a first-class institution, being situated over the bakery, kitchen and dining room. At the present time it is the best the management can do with the room at their disposal.

The sewer which was being built a year ago, mention of which was made in our last annual report, has been completed within the year and the prison sewerage is now being carried direct from the prison to Lake Michigan. By the completion of this sewer the intolerable nuisance known as the "Fish Lake Creek Nuisance," which smelled so long and loud in the nostrils of the citizens of Michigan City, has been abated. Dr. W. R. Godfrey, of the city health office, reports that since the abatement of this nuisance contagious and infectious diseases have rapidly disappeared, and the decline in the prevalence of this class of diseases has been so great that but few are now reported.

SOUTHERN PRISON.

On September 7th, the committee appointed by the Board visited and investigated the sanitary condition of the Southern Prison, located in the city of Jeffersonville.

The location of the buildings and their topographical surroundings have been frequently described in previous reports, therefore we do not deem it necessary that they should be given again.

Under the present careful management of the institution everything that a well matured mind can suggest is being done to remedy all sanitary and hygienic defects.

An inspection of the work-shops, foundry, dining-room, hospital and cell houses showed that every means at command were being used to properly cleanse, heat and ventilate the same and in every way make them comfortable.

The convicts seemed to be cheerful and well satisfied with the management.

The bedding and clothing used by the prisoners is of a good quality, clean and sufficient. No fault could be found with the quantity and quality of food furnished, consisting as it does of good light bread, soup (vegetable or bean), boiled meats and potatoes; the food being varied to suit the necessities and sometimes the desires of the inmates.

The fact that when the men left the table they carried away with them quantities of food was sufficient evidence that they were in no danger of dying of starvation.

Many reforms have been the result of the efficient and intelligent management of Warden Patton; and too much credit can not be given him for the great good he has accomplished during the few years he has been in control.

There still remains one thing for him to do to place it on an equality with model institutions of its character in the country, and that is to properly provide for the efficient disposal of waste. As has been stated in former reports issued by this Board the waste from the various buildings is carried along open gutters lined with brick, traversing the whole extent of the prison yard and finally discharging into an open ditch running westward outside the northern wall; only the waste water from shops and buildings is allowed to be conveyed in these open drains, while offal, night soil and the like are emptied

into a receptacle connecting with the sewer. It is supplied with a good flushing apparatus, securely trapped, so there is no danger of the return of sewer gas back into the prison grounds.

As has been heretofore suggested by the Board, the prison should be provided with a proper system of sewerage, which could be successfully done at a moderate expense. A former committee from this Board surveyed a line and made suggestions which if carried out would accomplish the object sought.

The plan mentioned was, that a sewer should be built from the southwest angle of the prison wall to the Ohio River, which is a scant half mile. "The incline from the level of wall to that of the river must be at least fourteen feet; converging lines of pipe conveying the sewerage from all parts of the prison to this southwest angle may discharge rapidly into the falls of the Ohio by means of an eighteen-inch main; once in the rapid current of the falls the disposal is effectual." Dr. John N. Taylor, President of this Board; in speaking of the manner in which waste in this institution might be disposed of, said: "Another mode of disposal is by cremation. A crematory like that of Pittsburg or Montreal, but of much less capacity, might be operated very successfully in disposing of garbage and night soil, while at the same time it might be made to serve other economical purposes, such as furnishing heat necessary for driving machinery, etc."

SANITARY REGULATION OF RAILROAD PROPERTY.

Railroads enter the great commonwealth of Indiana from all adjoining States, and traverse its domains in all directions, and as these great lines of commerce and travel are the ordinary means of communication between the residents of the large and populous States surrounding ours, it becomes necessary that such property should become the subject of sanitary supervision, as pestilential and other contagious and infectious diseases follow in the line of the movement of the people, and the interchange of the products of the States. In order to meet the demands of the producing classes, especially the demands of the farming class, these corporations in order to meet the demands made on them are compelled to establish stock pens at every station; usually within the corporate limits of towns and cities. Unless great care is taken they become filthy with

excrement and other offensive matter, which grows obnoxious and disease breeding. It is not unusual to find places of this kind that have not been cleaned nor disinfected for months and consequently have become a nuisance to the people and a menace to the public health. Also stock cars, filthy with excrement and other deleterious matters, are allowed to remain for days and weeks on side tracks to disturb the citizens with their disagreeable odors.

Annually a large per cent. of the inhabitants of each locality are necessarily obliged to visit the buildings and grounds belonging to the railroad corporations. It therefore follows that railroad property, especially buildings and grounds, should be kept in the best possible sanitary condition.

The depots should be of sufficient capacity to meet the demands of the locality, they should be properly heated, ventilated, cleaned and have urinals and water closets suitably located, with enough capacity to comfortably accommodate the traveling public, kept clean and free from foul odors, so that they will not be offensive to the senses of the most delicate persons. If it becomes necessary to use privies they should be suitably located at a proper distance from dwellings and the source of the water supply. If they are located within fifty feet of private dwellings, or the source of water supply, they should be abandoned, and the vaults cleaned, disinfected and filled with earth. New vaults should be established, properly located, and necessary precautions taken to make them water proof, so as to guard against the pollution of the surrounding ground. Water, whether its supply be from a well, spring, stream or lake, should not be used if there is any danger of contamination from nuisances in the immediate neighborhood.

Every day each passenger coach used as a common carrier should be aired and their closets cleaned and disinfected. Especially should the saloon closets be kept clean and free from foul odors.

Much can be done to prevent the befouling of these places by either properly painting or oiling the wood work so as to prevent the moisture from urine or other obnoxious liquid soaking into the wood work. The upholstering of the seats should be thoroughly dusted and cleaned every day. The bedding of sleeping coaches should be carefully aired after use, as the practice of putting away blankets, sheets, pillows and other

bedware into tight compartments after use over night is highly reprehensible and should be made a subject of sanitary examination.

Any person suffering with a contagious or infectious disease should be prohibited from traveling in a railway coach.

As stated in our last report separate apartments should be provided for those suffering from tuberculosis, furnished with cups for the reception of sputa, with a tank containing germicide solution number 2 (see preventable disease circular issued by the State Board of Health) for the thorough disinfection of sputa cups.

Modern research has, upon the most indisputable evidence, declared that tuberculosis is not only contagious but preventable, if the proper precautions are taken, among which the destruction of sputa is the most important.

The heating of all passenger coaches should be by steam, and not by stoves, the method now usually employed, which besides furnishing an irregular and badly distributed heat, are also a source of great danger in case of wreck. Annually many persons lose their lives by fire in railroad accidents, who might be rescued and their lives saved if it was not for this destructive agent. We believe that the important subject of heating of railway passenger coaches is a proper subject for legislative action.

This Board, believing that the law now on the statute books gave it authority to regulate this matter, submitted certain questions relating to the subject, to the Attorney-General, and received the following negative opinion:

OFFICE OF ATTORNEY-GENERAL, }
INDIANAPOLIS, February 12, 1890. }

Dr. Chas. N. Metcalf, Secretary State Board of Health:

SIR—I have received from you the following: “Sec. 4987, R. S., 1881, is in part as follows: ‘The State Board of Health shall have the general supervision of the interests of the health and life of the citizens of the State.’

“Sec. 4,994, extract. ‘Any person or persons or the officers of any corporation neglecting or refusing, after having been notified in writing to comply with the requirements of such regulations, shall be guilty of a misdemeanor,’ etc.

"(1) In view of the foregoing, has this board the authority to require railroad companies to heat their passenger cars with steam instead of stoves?

"(2) Would such an enactment by this board have the force of law within the State?"

The language you quote is but a portion of each section cited. Sec. 4987 provides that, "the State Board of Health shall have the general supervision of the interests of the health and life of the citizens of this State. They shall especially study the vital statistics of this State, and endeavor to make intelligent and profitable use of the collected records of deaths and of sickness among the people; they shall make sanitary investigations and inquiries respecting the causes of disease, and especially of epidemics, the causes of mortality and the effects of localities, employments, conditions, ingesta, habits and circumstances on the health of the people. They shall, when required, or when they deem it best, advise officers of the government, or other State Boards, in regard to the location, drainage, water supply, disposal of excreta, heating and ventilation of any public institution or building, and it shall be the duty of the board to report what in their best judgment is the effect of the use of intoxicating liquors as a beverage upon the industry, prosperity, happiness, health, and lives of the citizens of the State."

The officers of the State Board of Health exercise a naked statutory authority, and have no powers except such as are granted to them by law in express terms or by necessary implication. This is a fundamental rule concerning the powers of officers. *Williamson v. Doe*, 7 Blackf. 12; *Vail v. McKernan*, 21 Ind. 421; *Platter v. Board*, 103 Ind. 360, 378; *State v. Portsmouth Savings Bank*, 106 Ind. 435. Therefore it must be held that the State Board of Health has no other general supervisory powers than those conferred by the section quoted. The first sentence of that section is general in its nature, but it is limited and defined by the specific language which follows in the same section. The section, taken as a whole, prescribes and defines the exact supervisory powers of the board, and makes it clear that the Legislature did not intend that a general, unlimited power should be vested in the board. Again, that section gives to the board the general supervision of the "heating and ventilation of any public institution or building."

This language operates as a limitation and precludes the board from any other supervision in the matter of heating and ventilation. This is on the principle that the express mention of one thing excludes all others not mentioned. If the Legislature had intended that the State Board of Health should have the power to regulate the heating and ventilation of cars on railroads, such intention would have been made manifest by the use of language granting such power in express terms, or by necessary implication.

For these reasons I answer both of your questions in the negative.

There will have to be additional legislation before the State Board of Health can exercise such powers as those you mention. I have no doubt that our General Assembly has the constitutional power to enact a law giving to the State Board of Health, or to any other Board or officer, the right to supervise and regulate the heating and ventilation of cars on railroads. Such legislation would be a proper exercise of the power existing in our General Assembly to enact laws for the protection of the health, limbs and lives of the people of the State. This power is generally spoken of as the "police power," and in the *State v. Hockett*, 105 Ind. 250, the court, in defining the term, said: "It is a power inherent in every sovereignty, and is, in its broadest sense, nothing more than the power of a State to govern men and things within the limits of its own dominion. *License Cases*, 5 How. 504, 582. It extends to the protection of the lives, limbs, health, comfort and convenience, as well as the property, of all persons within the State. It authorizes the Legislature to prescribe the mode and manner in which every one may so use his own as not to injure others, and to do whatever is necessary to promote the public welfare, not inconsistent with its own organic law. *Thorpe v. R. & B. R. R. Co.*, 27 Vt. 140." This definition or description is broad enough to cover such legislation as I have mentioned. In the State of New York there is a law empowering the Board of Railroad Commissioners to supervise the heating of passenger cars on railroads, and to prevent the heating of such cars by any other means than steam, hot water, or hot air. Acts of New York, 1887, p. 828; Acts 1889, p. 250. The Legislature of New York

possesses no greater powers in this respect than our General Assembly, and I know of no reason why we should not have a law of that character.

Respectfully submitted,

L. T. MICHENER,
Attorney-General.

If a railroad corporation builds and maintains stock-pens within the corporate limits of a city or town, and allows them to become offensive and disease breeding; or allows stock-cars, filthy with excrement and other offensive matter, to remain for hours and days on side tracks, to annoy the people with their offensive smells, local health boards should take action to have the same removed.

The statutes provide for the abatement of nuisances, and it is the duty of local health officers to see that all laws for the protection of the public health are rigidly enforced against corporations as well as individuals.

SCHOOL HOUSES.

Last year the Board caused a sanitary survey of school houses of the State to be made.

Reports were received from one-third of the school houses of the State, which showed that eighteen per cent. of them were situated on low ground and needed drainage to make them suitable for a school house site. Many of them were not fenced, and served as roaming places for cattle and hogs.

Seventy-one per cent. were improperly ventilated, *i. e.*, no provision having been made for ventilation except such as was afforded by windows and doors, and in some instances, as teachers reported, "by broken glass in windows," "by broken transoms," or "by cracks in the floor." Twelve per cent. were not properly heated, either because the stove was too small, or because it was not located in the proper place. In thirty-four per cent. of the houses, blackboards were placed between the windows, thus endangering the eyesight of the pupils, on account of improper light; thirty-five per cent. of the blackboards had poor surfaces; thirty per cent. had water supplies that were located near some nuisance, rendering them unsafe for use.

Quite a considerable number had no wells, or springs, on the premises, and water had to be carried from neighboring wells, in some instances a distance of three-fourths of a mile.

Ten per cent had no privies.

Knowing this state of affairs to exist, the Board deemed it necessary to do something that might improve the faulty sanitary condition, of the school houses of the State. Therefore the following was prepared and a sufficient number forwarded to the Superintendents of schools of the different counties of the State, so that they would be enabled to place a copy in the hands of each township trustee :

INDIANA STATE BOARD OF HEALTH.

OFFICE OF THE SECRETARY,
INDIANAPOLIS, Aug. 15, 1890. }

To County Superintendents of Schools:

More than one-sixth of the population of our State will, during the next six months, spend six hours daily in the school house. This necessary confinement within the school-room walls, coming as it does during the growing period of the body, and while it is the most susceptible to harmful influences, entails certain evils which have been too generally regarded as necessary accompaniments of school life. It is well known, however, to those who have studied these questions carefully, that most of the diseases incident to school life are in quite a high degree preventable, and that one of the first and most important requirements in guarding against these diseases is to have the school houses placed in the best sanitary condition possible before the beginning of the fall and winter terms of school.

To insure a favorable hygienic condition for the schools, the following essentials are demanded :

1. To clean out all sources of water supply, and place them in good condition ; and where houses have no supply of their own, to at once furnish one.

2. In the absence of a better system, to prepare the windows and transoms so that ventilation can be had without causing draughts of cold air to come in contact with the pupils.

3. To place the buildings in good repair, with tight floor good roofs and underpinnings.

4. To see that the yard and grounds do not admit of standing water, and to prepare gravel or board walks to keep the children's feet out of the mud.

5. Suitable water closets for each of the sexes should be provided with every school-house. They should be situated far enough away from the house to secure privacy, and not be a nuisance. They should be kept in good repair, cleaned and disinfected at least twice a month.

6. The rooms should be so warmed that all may be kept comfortable; stoves and furnaces safe and in good order.

7. The rooms should not be overcrowded. Not less than fourteen square feet of floor space and two hundred and fifteen cubic feet of breathing space should be allowed each pupil.

8. Blackboards should not be placed between the windows, and the surfaces of the boards should be a DEAD BLACK, not GLOSSY.

9. The light should, if possible, be admitted from the rear of the pupil; NEVER from the front.

10. Desks and seats of different heights should be furnished, to suit the sizes and ages of pupils.

In order to insure immediate action, there is attached to this a blank order, which you will please fill up and issue to the proper authorities, and cause its enforcement.

By order of the Board.

C. N. METCALF, M. D.,

Secretary and Executive Officer.

.....Indiana, Aug....., 1890.

To.....

Trustee of.....County, Ind.

You will please cause the foregoing order of the Indiana State Board of Health to be rigidly enforced in your jurisdiction.

.....

County Superintendent.

NINTH ANNUAL REPORT

OF THE

Bureau of Vital and Sanitary Statistics,

FOR THE

YEAR ENDING SEPT. 30, 1890.

BY C. N. METCALF, M. D., SUPT.

Herewith are presented tabulated forms of marriages, births and deaths as provided for by statute.

We regret that these are not complete and therefore not as valuable as they would be were they in all respects what they should be. As was said in a former report by this board, reliable vital and sanitary statistics are justly regarded as of great importance to the public, the sanitarian and political economists. They constitute the standard by which the public health is measured, and the basis of the science of sanitation as well as the measure of financial waste resulting from preventable loss of human life. In this practical age assertion, conjecture, opinion, probability and theory, are all subordinate to facts and figures, and the deduction therefrom. Hence to convince the public of the value of sanitation it must be presented with matured conclusions, based upon mathematical exactness.

We are convinced that the number of deaths from preventable diseases has decreased each year since the organization of the board, and that this is due entirely to the vigilance of boards of health by insisting upon better hygienic surroundings. The full and complete value of such work can never be known, but enough is known to justify the clothing of these guardians of the public health with greater powers, and provide better means for enforcing their orders in their localities.

Through the stubbornness and disobedience of one individual in times of the prevalence of contagious or infectious diseases very serious results sometimes follow. Under our constitution all crimes must be defined by statute, and a failure to comply promptly with all reasonable demands of boards of health should be made a misdemeanor and in some cases felony, and should be promptly and severely punished.

The mere fact of ascertaining the number that die within a given time is of little or no practical value, but the causes of this mortality, the proportion of these causes to the total, the undue amount of death from any one cause, the unnecessary waste of life from preventable causes, the method of averting this loss by the removal of the causes and the yearly comparisons of mortality, thus affording an index of the healthfulness of our State and comparison with the mortality of adjoining States, are all questions of the highest importance.

MARRIAGES.

The whole number of marriages reported for the year ending September 30, 1890, is 18,646, 206 less than were returned for the previous year; 18,263 of the contracting parties are white and 383 colored; 17,098 grooms and 17,386 brides are Americans; 1,189 grooms and 818 brides are foreign born.

The nationality of 359 grooms and 442 brides are not reported.

There were 328 grooms and 4,674 brides under twenty years of age; 70 grooms and 4 brides were between seventy and eighty; 6 grooms and one bride were over eighty.

Gibson.	207	19	24	20	25	20	28	20	23	1	9	14	20	29	8	12	17	15	12	103	8	202	204	5	3
Grant.	252	30	20	28	25	25	28	25	21	16	16	18	14	31	21	10	21	21	10	198	2	245	251	5	1	..	2
Green.	196	28	26	26	28	28	28	28	14	10	10	10	10	10	10	10	10	10	10	198	3	198	199	1	1
Hamilton.	280	24	17	28	38	38	38	38	23	14	49	13	12	40	13	7	14	10	11	273	..	277	278	3	2
Hancock.	109	7	9	2	2	2	1	1	14	19	12	10	5	12	10	5	7	19	4	109	..	106	108	3	1
Harrison.	181	12	23	21	21	21	21	21	7	19	13	14	14	19	13	13	14	17	9	180	1	175	177	6	4
Hendricks.	179	31	13	10	10	10	7	7	11	11	8	17	19	24	8	10	10	10	10	177	2	177	178	2	1
Henry.	120	26	16	16	25	25	14	14	18	15	23	11	15	23	11	13	13	27	19	216	4	215	218	1	..	4	2
Howard.	190	18	18	18	25	25	19	19	22	19	10	10	10	10	11	11	14	21	19	199	..	199	199
Huntington.	185	33	15	15	18	18	17	17	14	12	12	10	11	12	10	11	16	14	13	185	..	183	182	..	8
Jackson.	198	30	11	17	17	17	33	33	12	10	25	9	10	25	9	10	22	11	8	197	1	190	194	8	4
Jasper.	149	13	4	13	13	13	10	10	5	10	2	2	14	10	2	14	14	5	11	98	..	88	91	11	5	..	2
Jay.	249	22	24	31	31	31	33	33	11	24	28	13	13	28	13	13	18	12	20	248	..	248	247	1
Jefferson.	289	31	25	37	37	37	23	23	25	21	21	20	30	21	20	30	19	11	23	239	1	218	269	..	2
Jennings.	121	14	14	14	14	14	8	8	11	14	12	8	7	12	8	7	7	3	9	120	..	118	119
Johnson.	190	11	23	22	22	22	18	18	15	17	14	16	12	14	16	12	10	13	190	..	190	190	..	..	..	..
Knox.	316	36	45	36	36	36	21	21	16	26	26	14	28	29	26	14	28	18	313	3	316	316	..	..	..	..
Kosciusko.	261	26	34	34	34	34	38	38	23	13	13	13	19	19	12	10	14	21	264	..	231	225	19	19	14	20	
Larange.	148	20	15	16	16	16	12	12	7	7	24	7	7	24	8	3	14	12	8	148	..	140	144	7	3	1	1
Lake.	180	18	15	15	12	12	12	12	19	10	21	12	13	21	21	12	13	9	180	..	65	74	115	105	..	..
Laporte.	235	26	20	17	17	17	33	33	18	13	19	17	22	17	17	22	14	22	238	..	154	168	79	66	5	4	
Lawrence.	191	17	23	22	22	22	19	19	7	3	3	18	12	31	18	7	12	18	190	..	190	190	1	1	..	..
Madison.	262	38	19	19	19	19	24	24	22	19	21	18	26	21	20	18	26	17	261	..	257	258	5	2	..	..
Marion.	711	46	27	61	61	61	91	91	80	75	37	15	68	87	15	46	68	79	643	68	615	652	76	38	20	21	
Marshall.	253	25	34	18	17	17	16	16	11	29	22	12	28	29	22	28	12	15	26	253	..	243	249	10	4
Martin.	139	17	16	14	14	14	15	15	8	12	17	5	15	17	5	12	6	7	139	..	195	137	2	2	..	..
Miami.	191	30	12	18	18	18	19	19	8	23	13	12	12	23	12	5	7	6	191	..	187	188	3	3	1	..	
Monroe.	124	11	11	11	11	11	10	10	8	11	14	16	14	14	16	14	9	11	119	5	121	123	3	1	..	..
Montgomery.	226	32	20	23	23	23	10	10	20	14	25	13	14	17	13	14	21	21	224	2	217	218	1	..	..	8
Morgan.	227	24	17	18	18	18	22	22	22	20	26	16	11	26	16	9	11	21	227	..	227	227	..	..	..	..
Newton.	74	7	8	5	5	5	16	16	9	9	4	9	9	4	8	3	2	2	74	..	51	51	23	23	..	2	
Noble.	179	27	21	21	21	21	15	15	13	12	14	8	15	14	8	15	7	11	179	..	170	176	7	1	2	2	
Ohio.	50	5	6	5	5	5	2	2	4	4	7	7	7	7	7	6	3	1	50	..	49	48	..	..	..	..
Orange.	129	12	12	14	14	14	16	16	6	18	12	18	6	12	18	6	22	22	129	..	129	129	..	..	..	..
Owen.	200	12	18	17	17	17	16	16	8	11	12	18	14	12	18	14	24	22	198	2	199	198	1	1	..	1	
Parke.	190	23	16	20	20	20	15	15	10	13	16	17	14	16	17	14	18	16	189	1	182	183	8	7	..	..
Perry.	222	39	23	27	27	27	18	18	9	12	40	22	10	15	22	15	15	15	218	4	203	208	16	10	3	4	
Pike.	159	18	10	11	11	11	15	15	20	13	20	10	12	14	10	12	14	7	159	..	159	159	..	..	..	..
Porter.	168	17	26	21	21	21	10	10	21	6	23	10	10	16	10	10	16	7	168	..	129	138	..	28	2	2	
Possey.	249	32	36	17	17	17	18	18	17	13	33	10	20	33	10	20	15	25	233	16	238	239	10	8	1	2	

TABLE B.

MARRIAGES.

Number of Marriages in Indiana for the Year Ending September 30, 1890.

COUNTIES.	Total.	GROUPED AGES.																	
		Under 20.		20 to 30.		30 to 40.		40 to 50.		50 to 60.		60 to 70.		70 to 80.		Over 80.		Not Reported.	
		Gr.	Br.	Gr.	Br.	Gr.	Br.	Gr.	Br.	Gr.	Br.	Gr.	Br.	Gr.	Br.	Gr.	Br.	Gr.	Br.
Adams.....	176	4	41	140	120	10	20	8	3	1	1	3	5	1	1	1	1	14	1
Allen.....	505	3	91	336	324	54	110	22	17	15	4	5	2	1	1	1	1	1	15
Bartholomew.....	225	6	53	137	146	19	42	12	4	2	1	2	1	1	1	1	1	1	4
Benton.....	95	2	19	65	64	23	28	4	3	2	1	1	1	1	1	1	1	1	1
Blackford.....	79	2	29	42	33	14	28	6	1	1	1	1	1	1	1	1	1	1	1
Boone.....	236	6	83	171	126	38	38	4	6	10	2	7	2	1	1	1	1	1	1
Brown.....	72	13	43	68	63	45	52	16	11	12	1	2	1	1	1	1	1	72	2
Carroll.....	167	2	72	194	175	35	22	22	13	7	3	4	1	1	1	1	1	3	3
Cass.....	238	5	5	40	80	75	29	12	15	1	1	1	1	1	1	1	1	353	3
Clark.....	480	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Clay.....	272	2	65	152	103	84	34	20	7	2	2	2	1	1	1	1	1	1	1
Clinton.....	272	8	80	194	153	18	39	13	11	8	2	2	1	1	1	1	1	1	2
Crawford.....	103	3	32	71	51	10	10	7	6	7	3	1	1	1	1	1	1	3	2
Davies.....	234	2	72	171	129	34	22	13	7	8	3	6	1	1	1	1	1	224	1
Dearborn.....	224	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Decatur.....	144	5	34	95	86	18	42	10	7	4	4	7	1	1	1	1	1	5	2
Dekalb.....	251	10	94	178	112	42	16	14	4	3	3	3	3	1	1	1	1	22	2
Delaware.....	197	9	76	136	98	32	16	9	6	5	1	5	1	1	1	1	1	..	..
Dubois.....	142	1	31	116	94	16	12	5	4	1	1	1	1	1	1	1	1	..	..
Elkhart.....	398	..	..	271	253	71	33	33	21	12	1	4	2	2	2	1	1	4	5
Fayette.....	83	1	8	60	61	14	12	6	1	1	1	1	1	1	1	1	1	4	4
Floyd.....	209	6	44	155	141	38	15	7	3	1	1	2	2	2	2	1	1	5	6
Franklin.....	180	3	120	109	31	13	12	7	6	6	4	2	2	2	2	1	1	1	1
Franklin.....	135	28	86	87	22	11	11	7	5	3	3	3	3	1	1	1	1	1	1
Fulton.....	116	1	37	82	63	17	7	8	5	4	2	2	2	2	2	1	1	..	..

TABLE B—Continued.

COUNTIES.	Total	GROUPED AGES.																Not Reported.	
		Under 20.		20 to 30.		30 to 40.		40 to 50.		50 to 60.		60 to 70.		70 to 80.		Over 80.			
		Gr.	Br.	Gr.	Br.	Gr.	Br.	Gr.	Br.	Gr.	Br.	Gr.	Br.	Gr.	Br.	Gr.	Br.		
		Gr.	Br.	Gr.	Br.	Gr.	Br.	Gr.	Br.	Gr.	Br.	Gr.	Br.	Gr.	Br.	Gr.	Br.		
		Gr.	Br.	Gr.	Br.	Gr.	Br.	Gr.	Br.	Gr.	Br.	Gr.	Br.	Gr.	Br.	Gr.	Br.		
Gibson	207	2	47	139	138	43	16	15	5	5	1	2	2	1	31	31			
Grant	252	5	60	161	137	38	18	9	4	6	2	2	2	1	5	3			
Greene	199	6	63	130	109	47	22	8	5	4	6	2	2	2	1	1			
Hamilton	280	3	77	209	164	30	19	18	11	9	2	2	2	2	2	2			
Hancock.	109	2	26	74	69	19	8	6	1	4	4	4	4	2	2	2			
Harrison	181	6	54	121	101	29	15	15	7	3	3	3	4	3	3	31			
Hendricks.	179	1	42	124	117	38	12	7	3	4	2	2	4	2	2	2			
Henry	220	6	57	137	126	35	21	13	7	10	7	4	4	1	10	10			
Howard	199	7	66	142	95	26	22	12	13	10	3	2	2	2	2	2			
Huntington	185	2	49	127	106	38	22	7	4	5	2	1	3	2	1	1			
Jackson	198	3	55	127	106	39	20	10	6	6	4	3	9	2	2	4			
Jasper	99	3	21	65	65	22	7	6	3	1	1	2	2	1	1	2			
Jay	219	5	62	180	156	42	19	13	9	5	2	1	2	2	2	2			
Jefferson	289	1	35	90	75	21	9	5	...	3	...	...	...	...	289	289
Jennings	121	1	35	90	75	21	9	5	...	3	...	...	...	...	2	2
Johnson	190	2	89	184	140	45	24	21	11	13	5	1	1	3	190	190			
Knox	316	11	86	183	131	35	22	15	11	9	9	1	7	47	47	47			
Kosciusko	264	1	46	104	77	26	16	6	5	7	2	2	2	5	5	5			
Lafayette	148	6	34	123	113	32	17	14	8	4	2	1	2	2	2	2			
Lake.	180	6	34	123	113	32	17	14	8	4	2	1	2	2	2	6			
Laporte	238	1	53	171	162	43	15	14	4	4	1	2	2	1	2	1			
Lawrence	191	2	53	152	121	28	11	9	2	3	2	1	6	1	3	1			
Madison	262	6	87	183	137	50	27	16	9	5	5	2	8	2	2	2			
Marion	711	12	207	416	387	153	65	68	14	19	2	2	3	33	31	31			
Marshall.	253	1	58	189	167	46	19	7	6	4	2	1	3	2	2	2			
Martin.	139	28	102	89	87	23	16	8	4	3	1	1	1	2	2	1			
Miami	191	3	52	139	116	33	18	10	2	3	1	1	1	1	1	1			
Monroe	124	5	44	84	64	22	13	7	2	5	1	1	1	1	1	1			
Montgomery.	226	3	61	146	124	45	16	12	7	5	4	4	4	8	8	8			
Morgan	227	6	68	163	126	25	18	14	9	6	3	6	6	4	4	4			

BIRTHS.

The total number of births for the year is 34,626 of which number 17,491 are males and 15,563 are females, 672 are colored and 848 are still-births. There were 371 twin births and 4 triplets, 667 are illegitimate.

TABLE A.

BIRTHS.

Births for the Year Ending September 30, 1890.

COUNTIES.	1890.												Total.	COLOR.				NATIONALITY OF PARENTS.				Not Reported		
	1890.													Males.	Females.	WHITE.		Col'd.	AMERICAN.		FOREIGN.			
	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	September.				Males.	Females.		Father.	Mother.	Father.		Mother.	
Adams	24	21	23	37	37	25	27	16	21	20	21	25	164	139	303	164	139	225	245	32	16	32	42	42
Allen	56	59	52	69	57	74	55	31	41	54	55	47	319	330	650	319	330	312	367	187	133	144	143	143
Bartholomew	55	43	50	42	62	56	51	31	47	34	45	47	279	279	562	279	279	499	538	44	30	15	12	12
Benton	33	23	22	12	19	14	14	16	13	14	17	10	115	81	196	115	81	160	164	35	30	1	1	2
Blackford	16	13	12	13	13	13	13	13	11	12	13	10	86	63	172	86	63	172	172	3	1	3	3	2
Boone	39	34	24	50	44	42	39	47	24	53	39	31	234	232	466	234	232	457	460	3	1	3	3	2
Brown	26	16	12	26	22	16	9	18	9	16	14	8	98	94	192	98	94	192	192	3	1	107	99	98
Carroll	56	41	27	36	32	32	23	21	27	36	27	10	188	171	359	188	171	186	300	43	42	46	3	14
Cass	39	16	24	24	21	24	17	22	25	24	24	15	149	138	287	149	138	166	171	47	28	28	2	73
Clark	42	26	27	24	21	24	11	25	23	22	22	13	191	191	382	191	191	213	223	27	28	22	9	2
Clay	55	33	34	24	34	44	46	30	30	38	32	27	235	203	444	235	203	371	376	48	36	22	23	23
Clinton	32	30	23	27	34	37	33	30	30	18	28	40	214	205	419	213	201	302	314	5	1	107	99	26
Crawford	30	33	35	31	21	17	24	30	19	30	39	29	158	160	318	158	160	287	289	3	1	26	26	26
Davies	57	36	66	22	33	61	52	43	49	31	56	64	353	280	633	350	278	621	625	10	6	6	6	2
Dearborn	81	18	22	26	26	28	15	22	19	31	30	11	194	167	361	194	167	276	318	52	15	25	20	20
Dekalb	15	16	16	16	16	16	16	16	16	16	16	16	158	137	295	157	135	281	289	13	5	5	5	3
DeKalb	10	4	5	16	16	15	8	9	7	10	11	9	66	45	111	66	45	99	104	6	3	5	3	3
Delaware	73	70	52	45	80	48	51	55	58	49	57	50	323	365	688	314	353	636	645	11	6	33	29	29
Dubois	74	52	25	38	25	17	27	22	30	23	50	44	191	181	372	189	181	345	355	25	15	3	2	2
Elkhart	82	47	52	62	65	57	67	45	38	50	45	14	348	306	654	347	306	572	575	40	41	37	33	33
Fayette	16	14	17	12	13	14	14	16	13	17	16	18	86	93	180	86	90	165	170	11	7	1	1	1
Floyd	37	34	57	52	49	46	39	45	38	53	47	35	252	275	532	252	275	444	471	62	44	24	24	15

TABLE A—Continued.

COUNTIES.	1890.												COLOR.				NATIONALITY OF PARENTS.				Not Reported			
	1889.												WHITE.		Col'd.		AMERICAN.		FOREIGN.					
	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	September.	Males.	Females.	Total.	Males.	Females.	Father.	Mother.	Father.		Mother.	Father.	Mother.
Fountain	18	10	14	26	23	23	22	15	18	17	14	19	100	118	219	101	118	219	210	214	7	3	1	1
Franklin	8	10	8	18	8	11	18	14	17	19	12	4	74	73	147	74	73	147	127	129	10	3	1	15
Fulton	38	9	61	35	25	19	35	24	6	34	17	7	176	134	301	201	184	301	301	300	6	7	1	1
Gibson	51	53	43	41	31	28	26	26	29	19	23	31	207	194	410	207	184	398	388	394	2	..	..	..
Grant	..	..	..	47	44	33	75	70	71	64	58	60	272	250	522	272	249	510	510	514	2	..	..	..
Greene	43	28	31	31	34	23	28	33	10	31	20	15	165	162	327	164	162	327	313	319	..	..	8	2
Hamilton	85	52	39	74	54	30	70	42	39	70	56	43	328	320	654	328	310	642	642	642	4	4	1	1
Hancock	29	23	37	44	26	15	23	31	24	39	40	31	187	175	362	187	175	362	339	343	8	3	1	8
Harrison	24	32	34	25	25	29	46	25	40	35	25	40	192	188	380	190	187	372	372	373	4	3	2	..
Hendricks	32	11	16	50	51	51	30	35	22	42	39	40	221	198	419	220	198	408	408	410	3	3	1	..
Henry	34	33	36	33	50	66	61	46	40	57	44	38	298	255	538	298	255	524	524	528	3	..	..	..
Howard	19	22	28	25	20	29	9	11	19	15	25	9	125	106	231	125	106	231	231	231	..	..	..	..
Huntington	39	42	30	39	30	41	40	50	41	51	71	44	245	273	521	245	273	474	486	486	13	6	25	20
Jackson	15	32	37	90	33	59	14	31	86	29	26	119	327	234	618	322	293	543	582	582	42	15	25	13
Jasper	16	9	15	10	11	11	9	14	10	12	17	6	79	66	145	79	66	134	136	136	9	7	18	4
Jay	57	36	45	45	56	26	29	22	9	33	37	39	252	202	454	249	202	424	429	429	9	3	5	..
Jefferson	25	27	8	16	11	19	24	17	20	17	12	17	101	112	213	96	106	199	203	203	6	7	..	..
Jennings	33	22	29	40	24	17	36	23	16	14	16	14	133	142	284	133	142	271	271	273	9	1	1	..
Johnson	47	28	34	37	36	29	37	23	33	27	24	24	195	189	385	194	189	381	382	382	1	1	1	281
Knox	20	36	40	50	11	34	10	38	6	12	17	12	136	148	286	134	148	346	356	356	9	6	16	9
Kosciusko	49	37	30	45	41	44	33	23	19	16	16	30	176	199	375	176	199	259	259	259	11	6	10	4
Lagrange	15	10	24	24	27	33	20	23	15	25	32	32	154	132	286	154	132	270	270	270	7	3	2	..
Lake	23	10	8	21	13	12	21	12	2	23	19	13	83	86	179	93	86	99	99	103	75	73	2	25
Laporte	56	46	46	46	46	38	40	48	52	39	37	37	289	296	585	289	296	306	306	306	254	222	222	..
Lawrence	31	17	26	21	23	22	19	32	21	63	33	39	181	166	347	181	166	306	306	308	11	4	24	29
Madison	43	42	34	46	41	43	45	43	24	43	51	41	339	321	590	339	321	511	473	473	2	2	76	114
Marion	229	293	277	277	277	277	277	277	277	277	277	277	1,383	1,011	2,492	1,293	1,171	2,022	2,022	2,022	495	456	151	143
Marshall	42	38	38	38	38	38	38	38	38	38	38	38	196	196	404	208	196	375	381	381	23	17	..	..
Martin	31	31	31	31	31	31	31	31	31	31	31	31	192	192	223	122	101	211	211	211	6	8	..	..
Miami	22	18	32	26	23	17	28	14	10	18	25	22	123	127	255	123	127	228	219	219	20	27	..	..

[illegible]

TAB

BIR

Number of Births for the Year

COUNTIES.	No. of Children.	NUMBER OF CHILDREN BORN TO THIS MOTHER.												12 and over. Not Re- ported.
		1st.	2d.	3d.	4th.	5th.	6th.	7th.	8th.	9th.	10th.	11th.		
Adams.	303	82	59	28	38	29	23	13	5	5	6	3	5	7
Allen.	650	156	112	93	61	37	33	11	18	6	5	4	4	112
Bartholomew.	562	157	97	71	68	50	42	20	20	10	10	4	6	7
Benton.	196	51	45	30	19	9	14	8	6	2	1	1	2	8
Blackford.	172	43	46	42	18	12	2	2	3	3	1	1	1	1
Boone.	466	134	95	67	47	32	31	17	17	9	5	3	4	5
Brown.	192	49	31	28	24	15	15	11	7	7	2	3	4	5
Carroll.	359	100	53	56	43	29	28	20	7	6	6	2	6	6
Cass.	287	86	61	42	30	24	16	6	11	2	3	1	5	5
Clark.	263	58	45	42	35	23	13	11	22	6	2	3	1	2
Clay.	444	75	93	69	64	50	40	24	14	4	3	1	4	3
Clinton.	419	99	95	74	42	29	27	18	10	9	5	3	3	5
Crawford.	318	72	67	48	38	21	22	18	18	10	7	1	3	3
Davies.	633	154	125	97	70	48	43	29	28	19	9	4	5	2
Dearborn.	361	103	65	44	44	36	27	15	13	5	5	1	1	2
Decatur.	295	73	60	32	34	26	31	15	12	6	2	2	4	1
Dekalb.	111	30	23	23	10	8	8	4	1	1	1	1	1	1
Delaware.	688	183	133	118	67	64	41	26	20	8	9	7	10	8
Dubois.	372	84	66	48	46	23	24	26	19	17	7	5	5	1
Elkhart.	654	171	140	106	70	54	40	24	18	7	7	4	13	13
Fayette.	180	48	40	30	24	14	2	12	3	4	2	2	1	1
Floyd.	532	131	117	78	60	45	33	18	14	12	9	6	8	1
Fountain.	219	63	38	29	26	16	13	9	8	7	3	2	6	6
Franklin.	147	35	26	18	12	14	16	6	5	4	3	2	4	4
Fulton.	310	93	57	53	34	30	15	8	7	3	2	5	2	1
Gibson.	401	108	75	52	42	37	19	20	19	6	7	3	3	10
Grant.	522	157	121	83	58	40	24	13	13	4	3	4	2	2
Greene.	327	70	58	59	44	30	21	17	6	3	3	3	9	9
Hamilton.	654	155	119	98	51	41	32	27	15	5	2	2	3	4
Hancock.	362	103	63	44	42	33	23	13	14	8	6	6	1	6
Harrison.	380	96	66	53	52	32	22	17	15	11	3	2	7	4
Hendricks.	419	101	91	58	58	32	25	19	11	8	9	6	1	1
Henry.	538	143	113	85	52	57	34	24	10	6	2	5	6	1
Howard.	231	64	56	40	25	12	13	5	6	4	3	2	1	1
Huntington.	518	153	108	80	63	35	25	19	12	6	1	1	1	14
Jackson.	621	157	129	79	68	44	36	33	25	20	8	8	7	7
Jasper.	145	52	24	25	16	8	7	6	4	2	1	1	1	1
Jay.	454	132	81	69	52	33	33	19	12	8	8	2	3	2
Jefferson.	213	57	42	28	23	17	14	9	13	3	3	1	3	3
Jennings.	284	67	56	51	27	23	17	14	7	5	3	2	1	11
Johnson.	385	111	79	52	33	31	27	22	8	5	7	1	4	5
Knox.	286	69	53	35	33	32	17	17	6	5	5	3	7	4
Kosciusko.	375	114	85	48	35	37	12	11	8	11	4	4	6	6
Lagrange.	286	78	71	42	27	18	15	9	6	2	3	1	5	9
Lake.	179	47	35	23	30	12	4	12	1	6	3	4	2	1
Laporte.	585	147	117	104	70	45	38	15	16	10	9	6	4	4
Lawrence.	347	96	62	44	39	34	24	15	9	10	2	2	3	7
Madison.	590	150	121	86	75	35	32	36	22	11	7	4	11	1
Marion.	2,707	730	582	450	243	170	121	62	54	25	25	17	16	111
Marshall.	404	99	77	55	58	33	23	19	15	8	6	1	4	6

LE B.

THS.

Ending September 30, 1890.

GROUPED AGES OF PARENTS.														Still Births.		Plurality Births.		Illegitimate Births.			
Under 20.		20 to 30.		30 to 40.		40 to 50.		50 to 60.		60 to 70.		70 to 80.								Not Reported.	
Fath.	Moth.	Fath.	Moth.	Fath.	Moth.	Fath.	Moth.	Fath.	Moth.	Fath.	Moth.	Fath.	Moth.	Fath.	Moth.	Male.	Fem.	Male.	Fem.	Male.	Fem.
1	20	123	176	103	73	42	18	14	..	..	..	1	1	17	12	5	..	6	4	..	4
7	35	204	281	232	187	64	33	13	..	..	..	..	..	127	107	14	9	10	7	..	9
48	200	292	232	181	83	34	18	..	..	..	..	..	..	15	7	4	..	7	..	..	2
1	14	63	99	86	65	30	11	5	..	..	..	..	..	11	..	..	..	..	..	..	..
2	47	62	69	77	47	24	8	7	1	..	..	..	..	..	..	..	..	..	..	..	..
6	38	204	272	162	125	63	21	15	3	1	..	12	4	3	6	..	..	2	3	1	2
2	24	85	97	70	54	28	6	4	..	..	1	11	..	..	..	..	..	..	..	..	..
..	65	170	156	89	92	61	41	11	..	..	..	25	2	..	..	..	..	3	3	2	2
1	17	113	86	100	41	32	7	7	..	1	..	31	133	3	1	..	..	3	2	..	..
1	10	89	134	109	97	54	16	3	..	1	..	2	2	..	..	..	..	4	3	3	..
1	77	151	212	188	120	74	15	17	..	2	..	8	17	2	4	..	..	4	2	5	..
5	34	160	231	169	119	46	13	9	..	1	..	24	17	9	4	4	4	4	5	..	5
4	35	122	154	116	93	43	26	9	..	4	..	18	8	8	8	3	3	3	1	5	5
4	48	267	362	262	177	81	41	12	1	1	..	4	2	2	5	2	2	2	1	3	3
2	22	106	171	146	129	63	16	9	..	2	..	25	15	1	4	10	17	17	1	6	1
2	28	101	138	129	108	48	17	8	..	1	..	5	3	1	1	1	..	1	..	3	3
7	6	41	60	46	37	19	4	2	..	..	..	2	2	2	2	2	..	..	..	1	1
1	93	275	359	235	165	99	44	38	..	1	..	25	19	7	11	9	9	7	3	8	8
1	22	144	175	142	138	70	37	12	..	1	..	1	1	1	4	1	1	1	1	1	1
5	71	233	288	174	140	95	53	36	2	7	1	98	95	10	6	4	9	9	1	8	8
..	10	70	109	77	51	24	5	2	..	..	..	4	2	2	5	6	2	2	2	3	3
1	32	243	307	188	158	78	28	8	..	2	..	10	5	4	1	..	..	2	2	1	1
2	12	76	97	65	48	23	7	10	..	3	..	41	54	1	1	2	2	2	1	..	..
2	4	42	50	47	50	27	14	3	..	..	..	26	29	..	..	2	2	..	..	..	..
2	41	128	164	125	87	41	13	8	1	1	..	3	2	5	3	2	2	5	..	..	..
2	23	146	212	131	121	82	33	20	..	1	..	13	6	8	6	5	3	7	3	5	5
3	50	187	298	184	132	70	23	14	..	..	..	62	17	2	2	5	1	1	3	3	3
1	23	130	182	114	96	47	8	8	..	1	..	20	12	4	1	6	6	6	1	1	1
5	57	270	346	242	187	92	40	19	..	4	1	14	17	12	3	2	12	10	4	14	14
..	36	138	170	139	98	46	26	11	..	..	..	24	34	9	2	5	3	4	2	10	2
1	24	178	216	128	101	45	23	9	..	3	..	12	12	2	5	3	5	5	4	7	7
1	41	143	218	183	125	68	27	8	..	4	..	7	2	8	9	7	7	5	8	4	6
1	51	222	281	210	160	86	32	19	1	1	2	3	6	12	10	10	10	4	..	..	..
1	14	117	98	64	67	21	36	2	..	..	..	27	16	..	..	..	..	..	..	..	..
1	41	206	275	197	153	74	26	12	..	1	..	21	17	5	3	6	6	3	..	2	2
1	50	232	329	243	194	90	29	22	..	6	..	16	8	5	13	9	14	7	..	7	7
1	7	65	87	50	41	24	8	2	..	..	..	1	1	1	2	2	2	2	..	..	..
4	50	204	238	152	125	59	23	13	2	..	..	19	13	7	5	3	3	3	7	..	..
1	7	65	108	72	71	30	7	7	..	1	..	34	17	2	2	4	5	2	..	5	5
1	17	95	137	103	84	42	18	13	..	4	1	22	24	3	1	3	5	1	..	2	2
1	42	172	208	140	104	46	21	10	..	..	..	14	8	3	3	2	2	2	3	5	5
1	27	92	144	96	70	56	20	9	..	2	..	25	20	3	4	4	6	3	..	2	2
1	31	173	211	131	101	38	17	13	..	..	..	15	11	7	6	5	3	5	1	2	2
..	20	115	160	109	81	43	14	5	..	1	..	7	5	2	6	6	6	1	1	1	1
..	17	76	96	56	44	23	12	2	..	..	..	19	7	2	1	2	4	..	..	2	2
1	37	225	328	232	179	90	24	13	..	1	..	18	12	12	8	7	3	4	..	1	1
1	31	120	143	126	103	41	14	11	..	1	1	40	30	5	5	6	6	7	3	3	3
1	50	249	315	245	166	64	30	15	2	6	3	9	26	8	4	1	1	5	3	..	..
16	378	1003	1297	848	775	418	83	70	..	20	3	290	235	59	42	37	41	55	34	13	13
3	282	154	222	167	126	58	18	12	..	3	..	1	..	7	2	6	6	4	..	..	..

TABLE B—

COUNTIES.	No. of Children.	NUMBER OF CHILDREN BORN TO THIS MOTHER.												Not Re-ported.
		1st.	2d.	3d.	4th.	5th.	6th.	7th.	8th.	9th.	10th.	11th.	12 and over.	
Martin	223	65	35	22	17	22	13	19	15	6	3	1	4	1
Miami	255	68	60	44	27	22	13	7	3	5	1	1	4	1
Monroe	336	91	64	50	36	36	17	13	11	9	4	1	1	1
Montgomery	485	141	107	69	59	36	24	16	11	8	6	5	3	1
Morgan	272	80	57	43	28	22	13	10	7	2	1	1	1	8
Newton	234	63	48	35	32	15	12	8	6	4	2	3	2	4
Noble	152	38	31	26	17	12	9	9	5	1	1	1	2	4
Ohio	79	19	20	16	8	3	4	3	3	1	1	1	1	2
Orange	224	62	42	39	19	21	18	12	6	3	1	1	1	2
Owen	238	83	38	33	30	15	16	6	3	5	5	1	1	2
Parke	239	58	43	27	30	16	12	10	7	5	3	3	2	25
Perry	313	69	52	49	38	30	35	17	8	9	3	1	2	1
Pike	171	40	35	30	16	16	20	3	1	4	1	1	2	3
Porter	192	54	34	35	21	16	6	4	6	5	4	2	1	4
Posey	572	157	96	81	64	60	35	30	20	9	6	2	2	10
Pulaski	129	46	21	14	12	12	7	4	4	3	3	1	1	1
Putnam	505	142	102	83	51	43	25	21	19	6	3	6	4	1
Randolph	696	192	124	115	79	49	52	20	21	10	5	6	2	11
Ripley	235	46	47	31	30	21	19	11	7	5	3	1	8	6
Rush	288	77	64	47	35	24	10	5	10	4	4	3	5	1
Scott	80	20	15	7	14	2	11	3	2	1	3	1	1	1
Shelby	443	126	84	67	36	27	29	25	9	11	8	4	1	16
Spencer	438	121	76	49	50	36	33	18	15	17	7	5	1	10
Starke	94	32	18	15	9	3	3	4	2	3	1	1	1	2
Steuben	147	49	31	19	18	13	7	6	3	1	1	1	1	1
St. Joseph	365	95	80	53	42	23	17	19	14	9	2	1	1	9
Sullivan	261	67	57	45	32	16	15	13	5	5	1	4	1	1
Switzerland	107	29	29	10	8	11	6	7	1	4	1	1	1	1
Tippecanoe	461	128	107	71	43	42	23	16	9	8	3	1	6	4
Tipton	314	77	60	42	36	19	25	12	13	7	5	2	4	12
Union	81	23	20	10	9	8	2	2	1	1	1	1	1	1
Vanderburg	1012	248	212	172	112	85	62	39	28	19	15	7	12	1
Vermillion	146	43	23	26	22	11	7	4	6	2	1	1	1	1
Vigo	976	303	199	166	107	77	42	18	17	11	9	5	2	20
Wabash	326	55	74	61	36	23	23	12	11	5	5	2	1	18
Warren	76	28	15	15	4	5	3	3	2	1	1	1	1	1
Warrick	333	80	59	50	37	22	19	25	14	6	12	2	4	3
Washington	309	82	64	44	29	23	20	10	14	5	4	1	4	9
Wayne	800	212	172	126	89	71	46	23	15	19	9	7	8	3
Wells	127	30	26	16	18	10	4	1	3	1	1	1	1	17
White	281	75	48	40	25	27	19	11	14	7	5	2	6	2
Whitley	275	75	58	33	25	26	15	11	8	7	2	2	3	10
Total	34,626	9,285	7,010	5,234	3,831	2,740	2,057	1,256	1,018	631	397	243	270	654

Continued.

GROUPED AGES OF PARENTS.														Still Births.		Plurality Births.		Illegitimate Births.			
Under 20.		20 to 30.		30 to 40.		40 to 50.		50 to 60.		60 to 70.		70 to 80.								Not Reported.	
Fath.	Moth.	Fath.	Moth.	Fath.	Moth.	Fath.	Moth.	Fath.	Moth.	Fath.	Moth.	Fath.	Moth.	Fath.	Moth.	Male.	Fem.	Male.	Fem.	Male.	Fem.
2	21	86	100	75	78	42	16	5	4	1	...	...	...	6	2	2	5	1	5	5	4
12	17	135	126	66	71	22	21	...	...	...	...	...	...	8	8	1	5	7	5	5	2
3	36	83	139	109	119	57	36	...	...	...	...	...	...	53	33	3	3	3	3	3	3
4	23	160	227	150	125	67	29	...	...	...	...	...	...	88	4	2	4	4	4	6	3
...	29	95	113	95	73	31	15	...	...	...	...	...	...	37	35	7	5	8	3	3	4
...	12	86	131	77	56	27	18	...	...	...	...	...	...	37	17	1	1	1	3	...	...
...	9	54	68	58	51	30	20	...	...	...	...	...	...	8	4	1	1	...	...	...	...
1	15	38	42	24	19	9	...	...	...	...	...	...	...	7	...	...	...	...	...	...	...
...	17	94	126	69	58	33	10	...	...	...	...	...	...	17	13	...	...	...	...	...	...
...	28	89	129	64	52	29	20	...	...	...	...	...	...	46	7	4	3	1	3	5	6
...	17	101	135	95	69	27	14	...	...	...	...	...	...	1	2	9	2	4	2	4	2
2	17	140	165	109	87	47	14	...	...	...	...	...	...	3	21	1	4	2	6	4	2
2	13	70	83	53	43	14	7	...	...	...	...	...	...	25	23	1	12	1	3	2	3
...	9	65	75	43	30	...	...	...	...	...	...	...	...	15	14	1	2	3	2	...	...
1	48	215	310	239	178	71	22	...	...	...	...	...	...	16	7	3	5	2	6	5	6
...	22	41	46	42	32	23	12	...	...	...	...	...	...	17	16	2	1	1	4	4	4
3	37	184	238	193	147	88	32	...	...	...	...	...	...	15	46	9	10	6	1	1	5
8	75	297	381	284	199	76	26	...	...	...	...	...	...	8	2	6	5	5	4	10	1
...	9	72	121	98	71	40	19	...	...	...	...	...	...	10	10	...	5	5	1	10	6
...	16	107	147	108	96	43	13	...	...	...	...	...	...	25	15	2	3	1	5	3	6
...	10	35	43	31	18	8	5	...	...	...	...	...	...	1	1	...	...	3	3	...	...
1	43	167	217	162	125	57	23	...	...	...	...	...	...	38	28	4	10	4	8	...	...
5	45	165	231	155	99	58	20	...	...	...	...	...	...	31	33	8	10	1	8	6	6
...	19	45	57	31	11	5	4	...	...	...	...	...	...	2	2	1	1	1	1	...	...
...	11	53	76	50	40	17	5	...	...	...	...	...	...	23	15	2	3	...	...	...	...
...	17	121	188	151	111	50	25	...	...	...	...	...	...	26	22	1	2	2	2	...	...
3	28	120	143	90	68	25	10	...	...	...	...	...	...	14	12	1	1	2	2	...	...
...	9	35	43	30	25	12	4	...	...	...	...	...	...	27	24	3	3	1	2	...	...
...	23	148	255	209	143	73	26	...	...	...	...	...	...	15	7	6	8	6	6	...	...
4	38	123	154	114	94	40	15	...	...	...	...	...	...	15	5	6	2	10	6	3	3
...	12	30	39	31	26	16	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4	65	395	558	398	320	154	40	...	...	...	...	...	...	27	17	17	6	6	20	10	...
...	19	58	76	59	44	21	2	...	...	...	...	...	...	7	4	1	2	1	3	...	...
11	176	360	456	370	257	156	63	...	...	...	...	...	...	10	3	57	13	13	31	16	...
...	41	98	164	145	115	62	3	...	...	...	...	...	...	6	...	...	...	...	...	...	...
...	7	39	46	16	13	8	4	...	...	...	...	...	...	8	5	1	...	1	1	...	...
1	39	127	156	119	108	47	17	...	...	...	...	...	...	12	12	6	1	1	8	7	...
2	33	122	150	99	89	55	18	...	...	...	...	...	...	21	18	1	2	6	2	5	...
2	55	293	419	331	261	190	56	...	...	...	...	...	...	11	2	11	11	8	8	...	...
...	9	28	56	47	37	16	7	...	...	...	...	...	...	25	18	...	...	...	...	...	...
...	18	90	122	83	79	44	17	...	...	...	...	...	...	48	43	1	3	1	4	...	...
...	19	115	149	103	79	35	17	...	...	...	...	...	...	7	6	8	2	7	3	...	...
181	3116	13218	17615	12644	9928	4937	1865	1021	31	148	20	2,089	1,703	468	380	398	356	347	320	...	...

DEATHS.

The total number of deaths from all causes is 14,859 to which, if the still-births be added, makes a grand total of 15,707.

TABLE A.

DEATHS BY COUNTIES.

Deaths by Counties for the Year Ending September 30, 1890.

COUNTIES.	1889.						1890.												Males.	Females.	Total.					
	Oct.		Nov.		Dec.		Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.											
	M.	F.	M.	F.	M.	F.										M.	F.	M.				F.	M.	F.	M.	F.
Adams	4	4	4	4	4	4	2	2	3	3	2	2	2	2	2	2	30	51	81							
Allen	30	21	17	21	19	13	39	25	17	31	5	4	4	4	3	32	32	297	297	594						
Bartholomew	11	8	9	9	8	8	7	13	16	16	8	3	11	14	17	14	13	145	132	277						
Benton	1	3	3	3	1	1	1	2	2	1	1	1	1	1	1	1	1	23	20	43						
Blackford	1	3	3	2	1	1	3	1	1	1	1	1	1	1	1	1	1	15	20	35						
Boone	9	2	5	9	4	4	6	6	6	1	3	4	5	5	11	4	8	64	54	118						
Brown	1	1	1	1	1	1	2	1	1	1	1	2	2	1	1	1	1	14	21	35						
Carroll	9	5	3	7	6	10	5	5	5	7	1	2	2	4	4	2	3	53	51	104						
Cass	9	11	5	8	12	8	20	10	9	13	4	6	6	11	8	9	8	111	110	221						
Case	15	9	7	4	13	5	4	13	5	3	1	7	9	9	5	11	7	90	74	173						
Clark	8	4	4	4	3	4	4	5	2	2	3	3	3	3	4	3	3	39	31	70						
Clay	7	8	1	3	1	6	4	8	9	6	8	3	2	5	5	2	6	66	59	125						
Crawford	2	3	2	2	5	5	4	9	14	15	4	7	4	4	3	6	5	59	60	119						
Daviess	4	11	4	4	4	4	6	9	10	11	7	6	6	6	13	11	6	106	87	193						
Dearborn	5	2	5	4	2	2	9	3	7	6	5	3	3	1	3	3	3	61	46	110						
Decatur	2	6	2	2	4	6	5	5	3	7	2	5	6	4	4	7	5	50	62	112						
Dekalb	2	3	2	2	1	1	11	9	1	2	12	3	6	1	1	4	3	32	25	57						
Delaware	12	17	12	5	8	8	16	10	9	8	8	4	14	6	11	8	20	113	119	232						
Dubuois	17	13	14	7	9	9	14	3	5	5	1	4	4	7	8	14	9	79	69	148						
Elkhart	12	11	8	13	7	9	14	13	11	11	11	9	16	7	10	12	12	119	126	245						
Fayette	3	2	3	3	1	1	2	2	3	4	4	2	4	1	2	2	3	23	28	56						
Floyd	13	9	9	16	3	13	10	7	8	14	14	6	13	16	10	4	8	127	124	251						
Fountain	4	7	4	3	2	2	5	9	1	2	4	3	4	4	4	4	3	43	33	76						
Franklin	3	5	14	4	10	15	7	3	8	1	2	2	5	4	2	2	3	38	38	73						
Fulton	3	3	5	4	10	15	7	3	8	1	2	2	5	4	2	2	5	59	55	114						

TABLE A—Continued.

COUNTIES.	1889.												1890.												Total.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
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TABLE B.

CAUSES OF DEATH.

Showing Total Number of Deaths by Months, Sex and Color, for the Year Ending September 30, 1890.

CLASS ONE—ZYMOTIC DISEASES.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	September.	WHITE.		COLORED.		Total.
													M.	F.	M.	F.	
ORDER ONE—MIASMATIC.																	
Anthrax	1	1	1	3	4	3	1	2	1	1	4	1	8	2	3	1	10
Chill, congestive.	4	6	7	2	1	1	10	16	109	211	153	76	12	19	10	14	35
Cholera infantum	4	30	19	31	11	14	16	8	5	10	3	2	353	283	1	1	640
Cholera morbus	4	30	19	31	11	14	16	8	5	10	3	2	10	11	1	1	23
Croup	39	9	3	45	38	4	28	11	14	27	19	8	98	86	2	4	190
Diarrhea	6	3	45	3	3	4	6	6	8	9	24	26	72	41	1	4	115
Diphtheria	92	34	45	3	3	4	28	11	18	54	59	26	192	229	12	6	439
Dysentery	12	2	4	1	2	2	10	3	15	33	28	16	105	111	5	6	227
Enterocolitis	5	1	7	8	5	6	10	2	2	5	5	3	51	63	3	3	120
Erysipelas	1	1	1	1	2	2	4	1	1	2	2	1	29	30	1	1	60
Fever, bilious	1	1	1	5	3	2	4	1	1	1	1	1	11	11	1	1	23
Fever, catarrhal	1	7	13	4	5	1	7	5	12	12	11	8	11	43	1	1	99
Fever, cerebro-spinal	6	1	1	4	3	9	4	1	9	1	1	1	3	1	1	1	16
Fever, congestive	1	1	1	1	1	1	1	1	1	2	4	1	1	2	1	1	10
Fever, continued	19	14	3	4	1	8	3	7	7	12	19	13	58	42	6	4	110
Fever, intermittent	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	10
Fever, malarial	4	3	4	5	7	6	9	3	2	3	2	3	3	1	6	1	4
Fever, pernicious	4	3	4	5	7	6	9	3	2	3	2	3	3	1	6	1	4
Fever, pauperal	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	52
Fever, remittent	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	23
Fever, rheumatic	15	10	9	17	11	8	7	8	4	11	13	11	4	12	1	2	6
Fever, scarlet	163	91	56	41	25	22	30	21	20	56	114	104	360	771	16	10	124
Fever, typhoid	10	3	2	4	3	3	3	3	3	6	12	12	32	89	1	1	743
Fever, typho-malarial	2	2	2	4	3	2	1	4	1	6	7	7	25	17	1	1	82
Gangrene	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17
La Grippe	4	2	2	78	127	70	45	23	14	17	7	27	186	187	6	11	383
Measles	1	2	2	1	10	6	12	19	7	4	2	1	38	31	1	1	89

Pertinitis, puerperal	2	7	8	19	1	2	7	2	1	1	1	4	69	22	2	22
Pertusis	9	7	13	8	23	13	16	12	23	16	7	7	69	83	2	159
Pysemia	14	9	13	3	8	6	8	9	10	6	5	5	54	45	4	106
Septemia, puerperal	2	2	3	3	...	1	2	1	1	1	...	...	...	12	1	13
Total	499	278	207	301	291	213	235	175	266	546	520	382	1,883	1,879	75	3,913
ORDER TWO—ENTHETIC.																
Syphilis, acquired	1	1	1	1	...	2	1	1	1	2	4	4	7	3	4	14
Syphilis, congenital	1	1	1	1	...	2	1	1	1	1	1	3	6	4	1	11
Total	1	1	1	1	...	4	1	1	1	3	5	7	13	7	5	25
ORDER THREE—DIETIC.																
Delirium tremens . . . . .	...	...	...	1	1	3	...	...	...	2	...	...	3	2	...	3
Kcema . . . . .	...	...	...	1	1	...	...	...	...	...	...	...	2	...	...	4
Infantion	38	16	10	12	14	7	17	17	38	42	30	31	133	123	7	287
Intemperance . . . . .	...	1	...	1	2	1	3	1	1	2	...	1	12	1	...	13
Purpura	1	...	...	1	...	...	1	...	...	...	...	...	...	...	...	3
Total	34	17	10	15	17	11	21	18	39	46	30	32	151	125	7	290
ORDER FOUR—PARASITIC.																
Aphthae . . . . .	...	...	...	...	1	...	...	...	...	1	...	...	...	3	...	6
Trichina	3	...	...	1	1	1	...	...	...	...	...	...	2	...	1	1
Trichinosis . . . . .	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	7
Total	3	...	...	...	2	1	...	...	...	1	...	...	3	3	1	7
Total zymotic diseases	537	296	218	316	310	229	287	194	306	596	555	421	2,050	2,014	89	4,285

TABLE B—Continued.

CLASS TWO—CONSTITUTIONAL.	October.	November	December	January.	February.	March.	April.	May.	June.	July.	August.	September	WHITE.		COLORED.		Total.
													M.	F.	M.	F.	
ORDER ONE—DIATHETIC.																	
Anæmia	3	3	3	7	4	7	4	5	3	5	4	3	18	32	..	1	51
Cancer	23	25	14	27	27	24	37	31	25	33	23	28	131	184	..	3	322
Dropsy	14	13	14	13	15	13	13	11	6	16	19	17	74	80	1	9	164
Goitre . . . . .	..	..	..	..	..	..	..	..	1	..	..	1	..	2	..	..	2
Rheumatism	9	9	4	6	6	5	10	6	5	5	4	4	44	27	1	1	73
Total	49	50	35	53	52	49	64	53	40	59	55	53	267	325	6	14	612
ORDER TWO—TUBERCULAR.																	
Abscess, psoas	2	1	1	2	1	..	1	1	1	7	2	3	5	..	1	..	6
Hydrocephalus	2	2	2	2	1	..	3	1	5	..	..	..	15	12	..	2	29
Meningitis tubercular	5	8	4	6	4	5	6	6	4	5	4	2	33	23	1	2	59
Morbus coxarius . . . . .	..	..	..	..	..	..	..	..	..	..	..	1	1	1	..	..	2
Phthisis	164	120	127	212	178	208	181	159	126	157	150	112	792	964	76	72	1,894
Pot's disease . . . . .	..	..	..	..	1	1	2	1	3	6	2	4	..	1	..	..	1
Scrofula	2	5	1	5	3	3	2	8	4	7	3	3	20	11	1	3	35
Tabes mesenterica	6	3	3	..	5	2	2	..	..	..	..	..	19	21	2	4	46
Total	181	137	138	226	192	216	196	175	143	182	161	125	885	1,023	81	83	2,072
Total constitutional diseases	230	187	173	279	244	285	280	228	183	241	216	178	1,152	1,348	87	97	2,694

TABLE B—Continued.

CLASS THREE—LOCAL DISEASES.	October.	November	December	January.	February.	March.	April.	May.	June.	July.	August.	September	WHITE.		COLORED.		Total.
													M.	F.	M.	F.	
ORDER ONE—NERVOUS SYSTEM.																	
Apoplexy	32	19	15	26	21	32	24	25	29	29	21	23	175	115	4	2	296
Brain, abscess	1	1	1	2	2	8	16	14	15	22	1	18	6	3	5	6	9
Brain, congestion	7	10	10	11	11	4	3	3	8	5	6	3	89	62	1	1	162
Brain, disease	6	6	1	6	2	4	3	3	2	10	7	19	28	23	1	1	53
Brain, effusion	1	1	1	1	1	1	5	7	5	3	2	3	31	34	1	3	1
Brain fever	4	4	3	6	5	7	6	9	6	10	2	1	24	22	1	1	47
Brain, softening	11	2	1	3	1	5	5	5	5	3	2	3	1	39	1	3	69
Brain, tumor	8	7	4	11	8	7	10	3	7	7	5	5	37	3	3	3	82
Cerebritis	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Chorea	1	19	9	17	11	13	21	26	23	29	19	16	123	93	6	8	230
Convulsions	5	3	5	6	3	2	4	4	4	1	1	2	32	18	5	5	50
Epilepsy	1	1	1	2	1	1	1	1	1	1	1	1	4	5	1	1	9
Insanity	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	7
Locomotor ataxia	1	13	23	20	20	18	23	33	36	26	25	13	145	110	11	8	274
Meningitis	24	2	1	2	2	3	3	2	3	4	4	1	19	9	1	1	28
Meningitis, cerebral	5	3	3	5	1	6	3	2	3	4	1	1	12	19	1	1	32
Meningitis, spinal	1	1	1	1	1	1	4	2	1	1	2	1	6	6	1	1	12
Myelitis	1	1	2	2	2	1	1	1	1	1	1	1	6	6	4	4	12
Nervous prostration	2	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	5
Neuralgia	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4
Neurasthenia	30	20	34	22	22	19	34	25	31	36	35	26	175	145	9	5	334
Paralysis	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	6
Rachitis	1	2	5	1	1	1	1	1	2	1	2	1	4	8	1	1	12
Spina bifida	1	1	1	1	1	1	1	1	1	1	1	1	4	3	1	1	3
Spinal sclerosis	3	1	1	1	4	2	4	2	4	3	2	3	19	12	1	1	33
Spine disease	3	1	2	1	4	2	4	2	4	3	2	3	18	11	1	1	29
Tetanus	171	115	119	149	125	131	167	157	183	198	160	129	969	753	45	37	1,804
Total																	

TABLE B—Continued.

CLASS THREE—LOCAL DISEASES.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	September.	WHITE.		COLORED.		Total.
													M.	F.	M.	F.	
ORDER TWO—CIRCULATORY.																	
Anæmism	4	28	8	10	2	827	34						2	13		1	
Congestion	1	1						5	3	2			14	5			
Embolism								1	1				5	5			
Endocarditis								3	1				6	1			
Epistaxis													1	359		17	
Heart disease	90	59	70	79	52	85	72	52	61	67	83	57	436	359	15	17	
Hæmorrhage	2	5	4	2	1	3	3	6	2	2	2	2	13	17	2	2	
Phlebitis																	
Total	96	65	79	86	59	93	78	67	69	73	86	62	476	400	17	20	913
ORDER THREE—RESPIRATORY.																	
Asthma	6	1	2	2	10	2	7	3	3	4	3	3	21	23	1	1	46
Apnea																	2
Bronchitis	17	12	16	35	41	31	35	22	8	12	11	10	122	114	9	5	250
Catarrh	2	1	2	1	2	2		1	2	1		1	6	8			14
Glottis oedema								1	1		*	1	1	2			4
Hæmoptysis	5		2	3	5	4	1	1		2			14	9	1		24
Hydrothorax																	1
Influenza	1																1
Laryngitis	3	6	4	2	3	4	1	1	1	2	1	1	16	11	2	1	28
Lungs, abscess	1	2	1	2	5	2				7	2	5	7	10	2		19
Lungs, congestion	8	5	9	12	12	10	6	4	4	6	6	5	46	35	4	2	87
Lungs, disease	2	1	1	1	1	3	3	5		3	3	4	13	13	1		28
Lungs, emphysema	1		1	1	1	3	1	1	4	1	1		7	2			9
Lungs, oedema																	3
Pharyngitis																	3
Pleuritis	4	1	1	2	1	1	3	3	1	1	2		13	2			18
Pneumonitis	24	61	56	167	209	148	129	75	38	38	20	31	506	449	23	18	983
Pneumonitis, broncho													12	11			24
Pneumonitis, catarrhal	2		2	3	3	6	1	1	1	3	1	1	6	10			16
Pneumonitis, pleuro		1	2	1	2	2	1	1	2	2			4	5			9
Pneumonitis, typho	2	4	1	2	2	2	5	1	1	2			16	6	1		23
Total	78	97	109	227	301	223	198	119	60	81	51	68	814	727	43	28	1,612

ORDER FOUR-DIGESTIVE.

[illegible]

TABLE B—Continued.

CLASS THREE—LOCAL DISEASES.	October.	November	December	January.	February.	March.	April.	May.	June.	July.	August.	September	WHITE.		COLORED.		Total.
													M.	F.	M.	F.	
ORDER FIVE—URINARY.																	
Albuminuria.	1	1	1	1	1	3	2	1	1	5	2	3	6	10	2	18	
Calculus.	5	5	2	3	3	5	2	2	4	5	5	2	38	6	1	44	
Cystitis.	4	2	2	10	6	2	2	4	5	5	4	2	31	20	1	52	
Diabetes.	1	1	1	1	1	1	1	1	3	5	4	1	2	2	3	26	
Hodgkin's disease.	3	1	2	16	5	13	1	1	6	4	9	7	20	6	3	59	
Kidney disease.	8	5	5	4	6	6	1	3	7	7	9	2	61	33	3	70	
Nephritis.	3	3	3	5	4	1	1	5	6	8	5	7	37	30	1	50	
Nephritis.	8	6	4	5	4	1	1	5	6	8	5	7	23	26	1	50	
Prostatitis.	3	2	4	2	2	1	1	1	1	1	1	1	1	2	1	7	
Uremia.	1	1	1	2	1	1	1	1	1	1	1	1	5	1	1	7	
Urethra, stricture of	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7	
Urine, suppression of	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7	
Total	31	30	28	45	31	32	22	19	34	39	39	25	228	135	10	375	
ORDER SIX—GENERATIVE.																	
Metritis.	2	2	1	1	1	1	1	1	1	1	1	1	1	6	1	6	
Ovaritis.	3	1	1	1	1	1	1	2	1	1	1	3	1	2	2	14	
Tumor, ovarian	1	1	1	2	1	1	1	1	1	1	1	1	1	5	1	8	
Tumor, uterus.	1	2	1	1	1	1	1	1	1	1	1	1	2	2	3	8	
Ostitis.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	8	
Total	5	4	1	4	3	2	1	2	1	2	1	5	2	27	1	30	
ORDER SEVEN—LOCOMOTORY.																	
Necrosis of tibia	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	2	
Total	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	2	

ORDER EIGHT—INTRODUCTORY.

Abscess.....	1	1	3	2	3	6	1	2	3	4	6	2	14	14	3	3	34
Total.....	1	1	3	2	3	6	1	2	3	4	6	2	14	14	3	3	34
ORDER NINE—MISCELLANEOUS.																	
Cellulitis.....	1	1	1	1	1	1	1	1	1	1	1	1	1	5	1	1	5
Otitis media.....	1	1	1	2	2	1	1	2	1	1	1	1	2	1	1	1	11
Tumor.....	2	1	1	1	2	1	1	1	1	1	1	1	1	8	1	1	11
Total.....	2	2	2	3	2	1	1	2	1	1	2	1	2	14	1	1	17
Total local diseases.....	506	404	437	634	620	582	556	444	468	573	504	400	3,209	2,664	142	113	6,128

TABLE B—Continued.

CLASS FOUR—DEVELOPMENTAL DISEASES.	October.	November	December	January.	February.	March.	April.	May.	June.	July.	August.	September	WHITE.		COLORED.		Total.
													M.	F.	M.	F.	
ORDER ONE—CHILDREN.																	
Atelectasis.	2	1	1	1	2	3	3	1	2	1	1	2	11	5	1	1	16
Birth, injuries.	2	16	17	11	3	7	7	11	6	14	12	13	73	68	3	3	13
Birth, premature	2	1	3	2	2	2	2	3	1	8	12	8	21	28	2	2	141
Cyanosis	1	2	2	2	2	2	2	1	1	1	1	1	4	5	1	1	52
Dentition.	1	1	2	2	4	1	1	1	1	1	1	1	2	3	1	1	9
Hemorrhage, umbilical	3	1	2	2	1	1	1	1	5	1	1	1	9	10	2	2	5
Malformation	1	1	1	7	9	1	1	1	1	1	2	1	11	11	1	1	21
Malnutrition.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	22
Prolapsus funis	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Total	29	18	19	32	28	12	13	19	26	31	29	24	140	128	5	7	280
ORDER TWO—WOMEN.																	
Climacteria.	3	4	1	8	1	1	6	1	2	3	5	2	1	39	1	1	1
Parturition.	1	1	1	1	3	2	1	1	1	1	1	1	1	2	2	1	2
Placenta previa	1	1	1	3	4	2	3	1	3	1	2	1	1	5	5	1	6
Post-partum hemorrhage	3	3	2	2	2	2	3	1	1	1	1	1	1	28	28	1	1
Puerperal eclampsia	1	2	1	1	1	2	1	1	3	2	1	1	1	13	13	2	2
Uterine hemorrhage.	1	1	1	2	1	2	1	1	1	2	1	1	1	6	6	1	1
Uterus diseased.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7
Total.	8	10	6	13	13	8	9	2	7	9	10	4	94	94	5	5	99
ORDER THREE—OLD AGE.																	
Old Age.	34	21	29	32	28	20	33	21	27	42	33	25	158	170	7	10	345
Total.	34	21	29	32	28	20	33	21	27	42	33	25	158	170	7	10	345

ORDER FOUR—NUTRITION.

Asthenia	2	4	2	2	2	11	13	15	1	1	2	3	1	9	7	1	1	18
Debility	10	3	7	14	6	9	13	15	9	5	11	12	16	66	49	5	6	126
Exhaustion	10	5	8	6	6	9	6	14	10	5	17	6	5	43	51	4	3	101
Marasmus	12	4	3	7	4	2	4	7	5	5	12	13	9	49	30	3	1	83
Total	34	16	20	29	23	22	23	36	25	16	42	34	31	167	137	13	11	328
Total developmental diseases . .	105	65	74	106	63	91	63	91	67	76	124	106	84	465	529	25	33	1,052

TABLE B—Continued.

CLASS FIVE—VIOLENCE.	October.		November.		December.		January.		February.		March.		April.		May.		June.		July.		August.		September.		Whites.		Colored.		Total.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
ORDER ONE—ACCIDENTS AND NEGLIGENCE.																													
Accident	19	22	16	32	11	43	19	20	17	34	16	24	50	56	14	2	273												
Accident, railroad	10	10	13	9	16	10	12	9	4	17	16	8	111	16	6	1	183												
Boiler explosion	14	5	6	4	2	8	5	1	1	3	2	6	27	31	3	2	63												
Burn	2	2	2	2	6	4	4	6	10	10	7	1	42	4	4	2	48												
Drowning	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	18												
Hydrophobia	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3												
Insolation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3												
Lightning	2	1	1	2	2	4	3	2	6	7	5	6	20	13	1	1	84												
Poison	2	4	4	9	4	2	1	2	3	7	1	3	35	1	4	1	40												
Shooting	2	4	4	9	4	2	1	2	3	7	1	3	35	1	4	1	40												
Total	49	42	42	56	40	71	46	39	47	86	54	47	457	136	33	4	619												
ORDER THREE—HOMICIDE.																													
Homicide	1	1	1	1	1	2	1	1	1	2	1	1	4	2	1	1	7												
Total	1	1	1	1	1	2	1	1	1	2	1	1	4	2	1	1	7												
ORDER FOUR—SUICIDE.																													
Drowning	2	2	2	2	1	2	2	1	1	2	1	1	4	3	1	1	6												
Hanging	1	1	2	3	1	1	2	2	3	3	4	3	14	9	1	1	17												
Poison	1	1	2	2	1	1	1	1	1	1	1	1	9	3	1	1	20												
Shooting	1	1	1	2	1	1	1	1	1	1	1	1	8	1	1	1	18												
Suicide	4	3	1	5	2	2	1	3	5	6	6	3	25	13	3	1	41												
Total	8	6	6	13	2	6	2	6	8	12	12	10	60	27	4	1	93												
Total violence	56	49	48	69	43	79	49	45	55	100	66	57	521	155	37	5	718												
Unknown	41	36	38	26	29	23	20	23	27	39	29	31	183	159	7	4	353												
Total unknown	41	36	38	26	29	23	20	23	27	39	29	31	183	159	7	4	353												

RECAPITULATION.

Zymotic diseases	337	296	218	316	310	229	257	194	306	596	555	421	2,050	2,014	89	82	4,295
Constitutional diseases	230	187	175	279	244	265	290	228	183	241	216	178	1,182	1,348	87	97	2,584
Local diseases	475	374	409	590	569	551	534	426	434	535	445	376	2,983	2,532	132	111	5,758
Developmental diseases	105	65	74	106	91	63	91	67	76	124	106	81	465	529	25	33	1,052
Violence, accidents and negligence	58	49	46	69	43	79	49	45	55	100	66	57	521	155	37	5	1,718
Unknown	41	36	38	26	29	23	20	23	27	30	29	31	183	159	7	4	353
Grand total	1,446	1,007	960	1,386	1,306	1,210	1,211	993	1,081	1,626	1,437	1,147	7,354	6,737	377	332	14,900

TABLE C.
CAUSES OF DEATH.

Nationality and Social Relations, for the Year Ending September 30, 1890.

CLASS ONE—ZYMOTIC DISEASES.	NATIONALITY.						SOCIAL RELATIONS.						Total.	
	American.			Foreign.			Single.	Married.		Widowers.	Widows.	Not Reported.		
	M.	F.	M.	F.	M.	F.		M.	F.					
ORDER ONE—MIASMATIC.														
Anthrax	8	2					8	1	6	1	2			10
Chill, congestive	15	18					33	7	6	8	1			35
Cholera infantum	358	269					363	27			1			640
Cholera morbus	8	9					3	3						23
Croup	100	88	3	3			100	82	5	2	3			190
Diarrhea	63	39	18	2			31	25	29	4	8			115
Diphtheria	190	217	9	16			202	223	2	6	1			439
Dysentery	104	100	5	15			71	61	29	26	9			227
Enterocolitis	53	61					53	64	1		1			120
Erysipelas	22	25	8	4			8	11	17	16	4			60
Fever, bilious		1						1						1
Fever, catarrhal	11	10		1			10	8	7	1				23
Fever, cerebro-spinal	55	43					47	37	2	2				99
Fever, congestive	1						1	1			1			1
Fever, continued	3	3							3					6
Fever, intermittent	58	41	1	1			2	3						10
Fever, malarial	3	5	3	5			34	24	25	17	3		2	110
Fever, puerperal	3	1					2	1	1					4
Fever, pernicious		48						9		50			1	52
Fever, remittent	12	11					5	7						23
Fever, rheumatic	3	2	1				3			1				

Fever, scarlet	49	72	30	21	2	1	47	72	3	1	20	31	1	8	19	124
Fever, typhoid	335	332	1	2	11	14	224	190	124	141	1	1	3	2	5	743
Fever, typhoid-malarial	27	32	1	2	1	1	19	24	9	4	1	1	3	2	2	62
Gangrene	14	15	2	1	1	4	4	4	34	11	4	4	6	7	34	388
La Grippe	180	180	11	12	1	4	83	77	78	67	29	45	2	2	69	22
Measles	38	31	3	1	1	1	35	22	2	20	1	1	1	1	159	105
Peritonitis, puerperal	73	21	1	1	1	1	71	85	2	30	3	3	3	1	13	3,913
Pertussis	45	44	8	6	3	1	26	16	27	13	1	1	1	1	1	1
Pyæmia	45	44	8	6	3	1	26	16	27	13	1	1	1	1	1	1
Septæmia, puerperal	13	13	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Total	1,831	1,818	97	105	31	31	1,455	1,341	386	435	89	159	20	19	19	3,913
ORDER TWO—ENTHETIC.																
Syphilis, acquired	9	3	1	1	1	1	6	1	1	1	3	1	1	1	1	14
Syphilis, congenital	7	4	1	1	1	1	7	4	1	1	1	1	1	1	1	11
Total	16	7	1	1	1	1	13	5	1	1	3	1	1	1	1	25
ORDER THREE—DIETIC.																
Delirium tremens	2	2	1	1	1	1	2	2	3	3	1	1	1	1	1	3
Eczema	2	2	1	1	1	1	2	2	1	1	1	1	1	1	1	4
Insanition	136	123	2	3	1	3	131	115	5	4	2	9	1	1	1	267
Intemperance	8	1	3	2	1	1	5	1	4	1	2	1	1	1	1	13
Purpura	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3
Total	148	127	6	5	1	3	138	118	12	7	4	9	1	1	1	290
ORDER FOUR—PARASTIC.																
Aphthæ	3	3	1	1	1	1	3	3	1	1	1	1	1	1	1	6
Thrush	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Trichinosis	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7
Total	4	3	1	1	1	1	4	3	1	1	1	1	1	1	1	7
Total zymotic diseases	1,999	1,955	104	110	33	34	1,610	1,467	408	443	96	169	22	20	20	4,235

TABLE C—Continued.

CLASS TWO—CONSTITUTIONAL.	NATIONALITY.						SOCIAL RELATIONS.								Total.		
	American.			Foreign.			Not Reported.		Single.		Married.		Widowers.			Not Reported.	
	M. F. M.			M. F. M.			M. F.		M. F.		M. F.		M. F.			M. F.	
	M. F. M.			M. F. M.			M. F.		M. F.		M. F.		M. F.			M. F.	
	M. F. M.			M. F. M.			M. F.		M. F.		M. F.		M. F.			M. F.	
ORDER ONE—DIATHETIC.																	
Anemia	15	30	3	1	..	2	9	15	7	10	2	6	..	2	51		
Cancer	99	146	27	38	..	3	18	15	96	98	15	74	..	4	322		
Dropsy	59	66	15	20	1	3	19	11	46	42	10	32	..	..	162
Gout . . . . .	..	9	..	..	..	..	..	1	..	..	..	..	..	..	2
Gonorrhea . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	73
Rheumatism	38	27	6	1	1	..	20	16	22	8	3	4	..	..	..
Total	211	271	51	60	11	8	66	58	171	159	30	116	6	6	612		
ORDER TWO—TUBERCULAR.																	
Abscess, psoas	6	14	..	..	..	..	3	14	3	..	..	..	..	..	6
Hydrocephalus	15	25	..	..	..	..	15	23	..	2	..	..	..	..	29
Meningitis, tubercular	34	25	1	..	..	..	84	1	..	..	..	..	..	..	59
Morbus coxarius	783	951	63	60	22	15	397	407	367	483	68	107	36	28	1,894		
Phthisis . . . . .	..	1	..	..	..	..	..	1	..	..	..	..	..	..	1
Pott's disease	21	14	..	..	..	..	20	14	1	1	..	..	..	..	35
Serofula	21	24	..	1	..	..	14	12	6	12	1	1	..	..	46
Tuberc. mesenterica . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	881	1,030	63	61	22	15	484	472	377	497	69	108	36	29	2,072		
Total constitutional diseases	1,092	1,301	114	121	33	23	550	530	548	656	99	224	42	35	2,684		

TABLE C—Continued.

CLASS THREE—LOCAL DISEASES.	NATIONALITY.						SOCIAL RELATIONS.						Total.															
	American.			Foreign.			Single.	Married.		Widowers.	Widows.	Not Reported.																
	M.	F.	M.	F.	M.	F.		M.	F.																			
ORDER ONE—NERVOUS SYSTEM.	Apoplexy.	Brain, abscess.	Brain, congestion.	Brain, disease.	Brain, effusion.	Brain, fever.	Brain, softening.	Brain, tumor.	Cerebritis.	Chorea.	Convulsions.	Epilepsy.	Idiocy.	Locomotor ataxia.	Meningitis.	Meningitis, cerebral.	Meningitis, spinal.	Myelitis.	Nervous prostration.	Neuralgia.	Neurasthenia.	Paralysis.	Rachitis.	Spina bifida.	Spinal sclerosis.	Spine disease.	Tetanus.	Total.
131	90	33	20	15	7	24	14	107	45	31	54	17	4	286	9	274	32	12	12	5	4	334	6	12	3	33	28	1,804
5	1	3	2	1	1	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
90	63	3	4	1	1	72	46	16	14	6	7	2	1	162	53	28	12	12	5	4	334	6	12	3	33	28	1,804	
25	21	3	3	1	1	10	12	15	9	2	2	1	1	9	7	7	3	3	3	3	3	3	3	3	3	3	3	3
31	36		1	1		29	33	1	3	1	1			69	47	1	1	1	1	1	1	1	1	1	1	1	1	1
20	19	5	3			7	3	13	13	5	6			47	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1							1							1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
37	40	2	2	1		33	30	7	10		2			82	4	1	1	1	1	1	1	1	1	1	1	1	1	1
3	1					3	1				1			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
125	98	4	3	3		127	98	5	5	2	1			230	59	7	3	3	3	3	3	3	3	3	3	3	3	3
27	16	2	2			24	13	1	2	2	1			59	9	7	3	3	3	3	3	3	3	3	3	3	3	3
3	4	1	1			1	1				1			7	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6	1													1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
152	115	3	2		1	145	103	3	2	3	3			274	32	12	12	5	4	334	6	12	3	33	28	1,804		
19	9					16	6	3	2	1	1			27	7	3	3	3	3	3	3	3	3	3	3	3	3	3
13	19					13	17		2	1	1			32	32	12	12	5	4	334	6	12	3	33	28	1,804		
6	5			1		5	2	1	2	1	2			12	12	5	4	334	6	12	3	33	28	1,804				
6	6					2		3	4	1	1			12	12	5	4	334	6	12	3	33	28	1,804				
1	1							1	3					5	4	334	6	12	3	33	28	1,804						
151	131	27	10	6	9	35	22	109	52	36	67	4	9	334	6	12	3	33	28	1,804								
1	1													1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	8	1				4	8	1		2				12	3	33	28	1,804										
3														1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
18	12	2			1	11	9	4	1	1	2			33	28	1,804												
15	11	3				13	8	4	1	1	2			33	28	1,804												
885	718	89	53	30	19	580	435	315	182	94	152	25	21	1,804														

TABLE C—Continued.

CLASS THREE—LOCAL DISEASES.	NATIONALITY.						SOCIAL RELATIONS.						Total.	
	American.			Foreign.			Single.	Married.		Widowers.	Widows.	Not Reported.		
	M.	F.	M.	F.	M.	F.		M.	F.					
ORDER TWO—CIRCULATORY.														
Aneurism.	1	2	1	...	...	...	...	...	...	...	...	1	...	4
Congestion.	14	14	1	...	...	...	...	...	...	...	...	2	...	28
Embolism.	4	1	1	...	...	...	...	...	...	...	...	1	...	8
Endocarditis.	5	4	1	...	...	...	...	...	...	...	...	...	...	10
Epistaxis.	1	...	...	...	...	...	...	...	...	...	...	...	...	2
Heart disease.	365	308	74	54	12	14	111	83	268	58	100	14	17	827
Hemorrhage.	10	16	3	...	2	3	8	7	4	1	1	2	4	34
Total.	400	346	79	56	14	18	133	103	282	61	106	17	21	913
ORDER THREE—RESPIRATORY.														
Asthma.	19	17	3	6	...	1	5	8	15	7	1	8	1	46
Apnoea.	1	1	...	...	...	...	...	...	...	...	...	...	...	2
Bronchitis.	111	105	18	13	2	1	79	63	36	23	12	32	4	250
Catarrh.	6	8	...	...	...	...	3	2	3	3	2	...	...	14
Glottis Oedema.	2	2	...	...	...	...	2	2	10	9	2	...	...	24
Haemoptysis.	13	5	2	3	...	1	3	...	1	...	...	...	...	1
Hydrothorax.	1	...	...	...	...	...	...	...	...	...	...	...	...	2
Influenza.	1	2	...	...	...	...	...	...	...	...	...	...	...	3
Laryngitis.	16	10	...	1	...	1	13	9	2	2	1	1	...	28
Lungs, abscess.	9	10	...	...	...	...	6	2	3	7	...	...	...	19
Lungs, congestion.	42	34	7	2	1	1	31	17	11	13	7	1	1	87
Lungs, disease.	12	13	...	1	2	...	10	8	4	5	2	...	...	28
Lungs, emphysema.	6	2	1	...	...	...	4	...	...	...	...	...	...	9
Lungs, oedema.	1	2	...	...	...	...	1	...	...	...	...	...	...	3
Pharyngitis.	...	...	...	...	1	...	1	...	...	...	...	...	...	3

Pleuritis	10	9	2	1	1	1	4	3	5	191	5	5	8	1	1	2	24
Pneumonitis	435	423	53	35	11	9	270	227	191	153	57	76	11	9	936		
Pneumonitis, broncho	11	11	2	1	1	1	6	7	4	3	2	2	1	24			
Pneumonitis, catarrhal	6	10	1	1	1	1	8	7	1	4	1	1	1	10			
Pneumonitis, pleuro	13	6	1	1	3	1	7	3	7	3	1	2	1	23			
Pneumonitis, typho																	
Total	746	677	90	63	21	15	457	364	293	243	87	135	20	13	1,612		
ORDER FOUR—DIGESTIVE.																	
Bowels, catarrh	3	1	1	1	1	1	2	1	1	1	1	1	1	1	1	4	
Bowels, congestion	23	12	9	1	1	1	13	3	1	6	1	1	1	1	1	37	
Bowels, disease	3	3	1	1	1	1	3	3	4	4	1	1	1	1	1	14	
Bowels, hemorrhage	21	12	2	4	1	1	16	5	7	9	1	2	1	1	1	13	
Bowels, obstruction	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	10	
Bowels, paralysis	5	5	1	1	1	1	2	1	4	2	1	1	1	1	1	4	
Bowels, ulceration	15	10	1	1	1	1	1	1	1	1	1	1	1	1	1	4	
Colic	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	10	
Colitis	15	10	1	1	1	1	11	5	2	3	1	1	1	1	1	4	
Dyspepsia	16	9	8	7	1	1	55	63	21	17	3	18	5	1	1	25	
Enteritis	2	4	1	1	2	1	15	19	21	19	4	9	2	1	1	16	
Gall stones	37	40	6	3	2	1	15	19	21	14	7	6	1	1	1	88	
Gastritis	22	36	1	3	1	1	33	39	12	15	3	3	1	1	1	61	
Gastro enteritis	16	6	3	1	1	1	3	2	19	6	2	3	1	1	1	27	
Hepatitis	9	9	2	1	1	1	5	7	1	3	1	1	1	1	1	22	
Hernia	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	
Intestinal perforation	13	14	1	1	1	1	2	1	1	3	2	2	1	1	1	29	
Intussusception	9	8	1	1	1	1	9	7	1	6	1	1	1	1	1	17	
Jaundice	7	7	2	1	1	1	2	1	1	6	1	1	1	1	1	17	
Liver, abscess	21	2	14	4	1	1	5	7	3	6	7	2	1	1	1	48	
Liver, atrophy	4	8	1	1	1	1	2	1	5	6	1	1	1	1	1	9	
Liver, cirrhosis	21	2	14	4	1	1	5	7	3	6	7	2	1	1	1	48	
Liver, congestion	4	8	1	1	1	1	2	1	5	6	1	1	1	1	1	9	
Liver, disease	7	13	1	5	1	1	3	2	3	9	1	5	1	1	1	25	
Liver, hypertrophy	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Oesophagus stricture	45	70	4	5	2	2	27	27	17	45	4	3	1	2	1	126	
Peritonitis	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	3	
Splenitis	14	14	1	1	3	2	7	1	10	3	5	8	1	1	1	21	
Stomach, catarrh	15	14	1	4	1	1	10	5	5	5	1	2	1	1	1	33	
Stomach, congestion	10	14	1	1	1	1	3	1	7	4	1	2	1	1	1	22	
Stomach, disease	4	4	1	2	1	1	1	1	2	4	1	1	1	1	1	6	
Stomach, hemorrhage	4	4	1	1	1	1	1	1	2	4	1	1	1	1	1	11	
Stomach, ulceration	5	4	1	1	1	1	1	1	1	1	1	1	1	1	1	11	
Stomatitis	2	3	1	1	1	1	1	1	1	1	1	1	1	1	1	3	
Throat disease	3	3	2	1	1	1	3	3	5	1	1	1	1	1	1	6	
Tonsillitis	8	3	1	1	1	1	4	4	1	1	1	1	1	1	1	15	
Typhlitis																	
Total	430	430	48	44	12	7	245	208	191	190	38	78	16	5		974	

TABLE C—Continued.

CLASS THREE—LOCAL DISEASES.	NATIONALITY.						SOCIAL RELATIONS.						Total.	
	American.			Foreign.			Single.	Married.		Widowers.	Widows.	Not Reported.		
	M.	F.	M.	F.	M.	F.		M.	F.					
ORDER FIVE—URINARY.														
Albuminuria	7	9	1	1	5	5	1	2	7	2	2	2	1	18
Calculus	2	2	7	2	8	3	8	29	1	2	6	6	1	4
Cystitis	31	3	3	1	1	1	1	19	11	4	4	2	1	44
Diabetes	28	20	3	1	2	2	2	1	4	6	6	1	2	52
Hodgkin's disease	2	5	5	1	2	1	2	11	4	6	10	1	2	26
Kidney disease	13	50	13	5	3	1	2	41	19	10	3	1	1	99
Nephritis	50	27	13	3	15	7	7	20	14	3	7	2	2	70
Nephritis	34	25	5	3	1	1	1	1	11	8	5	1	1	50
Prostatitis	2	25	1	1	3	10	10	12	1	1	1	1	1	7
Uremitis	24	1	1	1	2	2	2	1	1	1	1	1	1	1
Urethra, stricture	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Urine, suppression	5	1	1	1	1	1	1	1	1	1	1	1	1	1
Total	199	117	34	13	5	7	7	51	32	140	69	41	32	375
ORDER SIX—GENERATIVE.														
Metritis	6	6	1	1	1	1	1	2	5	1	1	1	1	6
Ostitis	2	1	1	1	1	1	1	1	1	1	1	1	1	3
Ovaritis	1	2	2	1	1	1	1	1	1	1	1	1	1	2
Tumor, ovarian	9	9	4	1	1	1	1	1	12	3	1	1	1	14
Tumor, uterus	5	5	1	1	1	1	1	1	3	1	1	1	1	5
Total	2	23	4	4	1	1	1	4	2	21	2	1	1	30
ORDER SEVEN—LOCOMOTORY.														
Necrosis of tibia	1	1	1	1	2	1	2	1	1	1	1	1	1	2
Total	1	1	1	1	2	1	2	2	1	1	1	1	1	2

ORDER EIGHT—INTEGUMENTARY.

Abscess	17	17	...	...	...	10	11	4	4	3	2	...	...	34
Total	17	17	...	...	...	10	11	4	4	3	2	...	...	34

ORDER NINE—MISCELLANEOUS.

Cellulitis . . . . .	...	5	...	...	...	...	1	...	4	...	...	...	...	5
Otitis, media . . . . .	...	1	...	...	...	...	1	...	...	...	...	...	...	1
Tumor	2	9	...	...	...	...	1	2	3	...	6	...	...	11
Total	2	15	...	...	...	...	3	2	7	...	5	...	...	17
Total local diseases	2,692	2,343	341	233	82	67	1,478	1,160	1,229	906	512	84	65	5,758

6—BD. OF H.

TABLE C—Continued.

CLASS FOUR--DEVELOPMENTAL DISEASES.	NATIONALITY.						SOCIAL RELATIONS.						Total.	
	American.			Foreign.			Single.	Married.		Widowers.	Widows.	Not Reported.		
	M.	F.	Total.	M.	F.	Total.		M.	F.			M.		F.
ORDER ONE--CHILDREN.														
Atelectasis	11	5	16				11	5						16
Birth, injuries	9	4	13				9	4						13
Birth, premature	75	66	141				75	66						141
Cyanosis	23	29	52				23	29						52
Deafness	4	5	9				4	5						9
Dehydration	2	3	5				2	3						5
Hemorrhage, umbilical	2	9	11				2	9						11
Malformation	11	11	22				11	11						22
Malnutrition	1		1				1							1
Prolapsus funis														
Total	145	135	280				145	135						280
ORDER TWO--WOMEN.														
Climacteria		1	1											1
Parturition	38		38		1	39			36	1				39
Placenta, previa	2	2	4						2					4
Post partum, hemorrhage	5		5		1	6			6					6
Puerperal eclampsia	30		30						24					24
Uterine, hemorrhage	11	8	19		3	12			12					12
Uterus, disease	6	1	7		1	3			3					3
Total	93	6	99		6	84			84	5				89

ORDER THREE—OLD AGE.

Old age	118	140	43	32	4	8	6	12	62	23	86	130	11	15	345
ORDER FOUR—NUTRITION.															
Asthenia	7	6	2	2	1	..	2	1	3	3	5	4	..	..	18
Debility	56	45	11	8	2	..	21	18	29	17	18	19	3	..	126
Exhaustion	41	61	5	3	1	..	30	26	15	13	2	13	..	2	101
Marasmus	47	28	5	2	..	..	42	24	3	2	7	2	..	3	83
Total	153	130	23	15	4	3	96	69	50	35	32	38	3	6	328
Total developmental diseases	416	498	66	53	8	11	246	225	112	142	118	173	14	22	1,062

TABLE C—Continued.

CLASS FIVE—VIOLENCE.	NATIONALITY.						SOCIAL RELATIONS.						Total.	
	American.			Foreign.			Single.	Married.		Widowers.	Widows.	Not Reported.		
	M.	F.	Total.	M.	F.	Total.		M.	F.					
ORDER ONE—ACCIDENTS.														
Accidents	172	56		39	2	4		94	30	96	14	1	1	273
Accidents, railroad	96	15		13	1	8		52	7	48	7	9	1	133
Boiler explosion	6							2						6
Burn	27	26		2	5	1	2	25	20	4	7	1	1	63
Drowning	32	3		6	1	6		30	2	4	1	6		43
Hydrophobia	1	1						1	1	1	1	1		6
Insolation	10	1		5	2			3	1	4	2	6		18
Isolation	1	1						1	1	1	1			2
Lightning	1	1						1	5	1	6	1	1	2
Poison	14	12		7			1	10	10	8	1	1	1	34
Shooting	31	1		8				23	5	14	1	1		40
Total	399	116		80	11	19	3	240	67	186	38	25	4	619
ORDER THREE—HOMICIDE.														
Homicides	3	2				2		2		3	2			7
Total	3	2				2		2		3	2			7

ORDER FOUR—SUICIDE.

Drowning	2	2	1	...	1	...	1	2	...	1	1	1	...	6
Hanging	11	3	3	...	...	...	...	11	...	...	...	...	...	17
Poison	8	9	2	1	...	2	...	7	6	...	...	...	...	20
Shooting	6	...	7	...	4	9	...	4	8	...	...	...	...	8
Suicide	17	11	2	...	...	2	...	13	...	...	...	...	...	41
Total	44	25	15	1	5	2	17	6	37	15	5	5	2	92
Total violence	437	143	95	12	26	5	259	73	226	55	43	26	30	718
Unknown	165	141	9	13	16	9	128	91	38	32	12	32	12	353
RECAPITULATION.														
Zymotic diseases	1,999	1,955	104	110	33	34	1,610	1,467	408	443	96	169	22	4,235
Constitutional diseases	1,092	1,301	114	121	33	23	550	530	548	656	99	224	42	2,694
Local diseases	2,692	2,343	341	233	82	67	1,478	1,160	1,229	906	324	512	84	5,758
Developmental diseases	416	498	66	53	8	11	246	225	112	142	118	173	14	1,052
Violence	437	143	95	12	26	5	259	73	226	55	43	26	30	718
Unknown diseases	165	141	9	13	16	9	128	91	38	32	12	32	12	353
Grand total	6,801	6,381	729	542	198	149	4,271	3,546	2,561	2,234	692	1,136	204	14,800

TAB

Causes of Death and Grouped Ages for

CLASS ONE—ZYMOTIC DISEASES.	Under 1		1 to 5.		5 to 10.		10 to 15.		15 to 20.		20 to 30.		30 to 40.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
ORDER ONE—MIASMATIC.														
Anthrax	3	1	1	..	..	2	1	2	..	2	2	4	1	1
Chill, congestive	281	208	79	67	32	2	..	..	..	..	..	..	..	..
Cholera infantum	..	..	..	..	..	..	..	1	..	1	..	..	..	..
Cholera morbus	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Croup	17	16	67	55	15	15	1	1	1	1	2	1	1	4
Diarrhoea	11	11	9	8	2	1	5	1	3	5	4	7	1	1
Diphtheria	24	14	85	83	73	99	4	13	29	3	2	4	2	8
Dysentery	24	16	24	30	13	4	1	..	..	1	1	1	1	4
Enterocolitis	33	39	15	22	3	..	..	1	..	..	..	..	..	2
Erysipelas	2	8	3	..	..	2	1	..	1	1	..	1	2	1
Fever, bilious	..	..	..	..	..	1	..	..	..	..	..	..	..	..
Fever, catarrhal	7	1	1	3	..	..	..	..	2	1	1	3	3	..
Fever, cerebro-spinal	17	4	11	16	7	9	4	5	3	1	6	4	3	2
Fever, congestive	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fever, continued	..	..	..	..	..	..	1	..	..	1	1	1	1	1
Fever, intermittent	1	..	..	..	..	..	..	..	1	1	1	1	1	1
Fever, malarial	7	6	13	3	1	4	2	1	6	4	7	11	3	6
Fever, pernicious	1	..	..	..	..	..	..	..	1	1	..	..	..	..
Fever, puerperal	..	..	..	..	..	..	..	..	5	1	..	28	..	13
Fever, remittent	3	3	..	2	..	1	1	2	..	1	4	1	..	1
Fever, rheumatic	..	..	..	..	..	..	..	..	..	1	1	1	..	1
Fever, scarlet	10	17	24	35	11	18	1	1	1	..	2	1	1	1
Fever, typhoid	5	3	20	16	23	22	21	40	57	62	93	86	46	50
Fever, typho-malaria	..	..	5	10	2	..	..	3	9	6	3	3	3	1
Gangrene	..	..	1	..	..	..	..	..	..	1	1	1	..	..
Grippe	32	22	19	19	6	5	4	3	5	9	5	30	19	20
Measles	10	5	16	10	3	1	1	2	2	1	3	5	1	3
Peritonitis, puerperal	..	..	..	..	..	..	..	..	1	1	..	10	..	8
Pertussis	39	52	24	26	10	7	4	..	1	3	4	10	11	10
Pyæmia	6	4	2	2	1	4	2	..	..	4	10	11	1	4
Septæmia, puerperal	..	..	..	..	..	..	..	..	..	..	8	..	..	..
Total	533	431	419	407	175	200	61	91	95	113	153	223	91	146
ORDER TWO—ENTHETIC.														
Syphilis, acquired	..	..	..	..	..	1	..	..	..	..	1	2	2	..
Syphilis, congenital	5	3	2	..	..	..	..	..	..	..	..	..	..	..
Total	5	3	2	..	..	1	..	..	..	..	1	2	2	..
ORDER THREE—DIETIC.														
Delirium tremens	2	2	..	..	..	..	..	..	..	1	..	..	..	..
Eczema	117	101	9	11	2	2	..	1	..	..	1	1	1	1
Inanition	..	..	..	..	1	..	..	..	..	..	1	1	2	..
Intemperance	..	1	..	..	..	..	..	..	..	..	1	1	..	..
Purpura	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	119	104	9	11	3	2	..	1	..	..	3	3	3	1
ORDER FOUR—PARASITIC.														
Aptha	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Trush	2	2	1	1	..	..	..	..	..	..	..	..	..	..
Trichinosis	..	..	..	..	..	..	1	..	..	..	..	..	..	..
Total	2	2	1	1	..	..	1	..	..	..	..	..	..	..
Total zymotic	659	540	431	419	178	203	62	92	95	113	157	228	96	147

LE D.

the Year Ending September 30, 1890.

40 to 50.		50 to 60.		60 to 70.		70 to 80.		80 to 90.		90 to 100.		Over 100		Not Re- ported.		Males.	Females.	Total.
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
2	1	2	1	1	1	1	1	1	2	1	1	1	1	1	1	8	2	10
1	3	1	1	1	1	1	1	1	2	1	1	1	1	1	1	15	20	35
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	363	277	640
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	11	12	23
10	2	8	3	10	4	8	2	3	4	1	1	1	1	2	2	100	90	190
1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	72	43	115
3	7	7	7	7	15	10	15	4	3	1	1	1	1	3	1	204	235	439
4	4	5	2	5	1	4	1	2	1	1	1	1	1	1	2	110	117	227
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	54	66	120
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	30	30	60
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	12	11	23
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	55	44	99
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	2	6
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	6	10
5	4	6	3	6	1	4	1	2	1	1	1	1	1	2	1	64	46	110
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	1	4
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	52	52	104
3	4	1	1	1	1	1	1	1	1	1	1	1	1	1	2	12	11	23
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	2	6
34	32	19	17	23	15	16	6	5	1	1	1	1	1	14	17	51	73	124
4	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	376	367	743
3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	29	33	62
18	15	13	16	17	15	30	24	18	14	4	1	1	1	1	4	172	196	368
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	38	31	69
1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	74	85	159
6	3	6	1	5	6	8	2	2	1	1	1	1	1	4	1	56	49	105
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	13	13	26
96	85	76	57	86	68	91	67	40	28	8	3	1	1	35	35	1,959	1,954	3,913
2	1	4	1	1	1	1	1	1	1	1	1	1	1	2	1	11	3	14
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7	4	11
2	1	4	1	1	1	1	1	1	1	1	1	1	1	2	1	18	7	25
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	1	4
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	4
3	1	4	1	1	1	1	1	1	1	1	1	1	1	1	1	138	129	267
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	12	1	13
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	1	4
4	1	7	1	3	4	1	3	3	2	1	1	1	1	1	1	155	135	290
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	3	6
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	3	7
102	86	87	58	89	73	92	70	43	30	8	4	1	1	37	36	2,136	2,099	4,235

TABLE D—

CLASS TWO—CONSTITUTIONAL.	Under 1		1 to 5.		5 to 10.		10 to 15.		15 to 20.		20 to 30.		30 to 40.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
ORDER ONE--DIATHETIC.														
Anæmia	3	3	2	2	1	1	..	3	1	3	1	7	..	1
Cancer	2	..	1	2	1	3	2	1	5	3	5	7	13	16
Dropsy . . . . .	..	..	..	..	..	..	..	..	..	..	..	3	3	4
Goitre . . . . .	..	1	..	..	2	2	6	1	6	3	2	2	2	4
Rheumatism . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	5	4	4	4	4	6	8	5	12	10	12	26	18	25
ORDER TWO—TUBERCULAR.														
Abscess, psoas . . . . .	..	..	..	..	1	..	1	..	..	1	..	..	..	..
Hydrocephalus	12	13	2	1	..	..	..	..	..	..	..	..	..	..
Meningitis, tubercular	9	8	15	11	1	2	4	1	2	1	2	1	..	..
Morbus, coxarius . . . . .	..	..	..	..	1	..	..	..	..	1	..	..	..	..
Phthisis	15	10	19	24	4	15	13	30	62	113	248	327	175	226
Potts' disease . . . . .	..	..	..	..	..	..	..	..	..	..	..	1	..	..
Scrofula	9	4	3	3	2	2	..	2	1	2	1	1	1	1
Tabes, mesenterica	3	5	4	..	2	2	1	1	..	..	3	6	3	6
Total	48	40	43	39	11	21	19	34	65	117	255	335	179	233
Total constitutional	53	47	47	43	15	27	27	39	77	127	267	361	197	258

Continued.

40 to 50.		50 to 60.		60 to 70.		70 to 80.		80 to 90.		90 to 100.		Over 100		Not Re- ported.		Males.	Females.	Total.
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
21	1	5	3	3	3	1	3	1	3	1	1	1	1	6	2	18	33	51
9	34	31	47	37	41	14	27	8	3	1	1	1	1	2	10	135	187	322
4	9	9	14	13	19	17	22	6	6	1	1	1	1	2	2	75	89	164
4	6	6	2	6	4	6	6	1	1	1	1	1	1	2	1	45	2	73
34	44	41	66	59	67	38	58	15	10	1	2	1	1	11	14	273	339	612
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6	14	6
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15	25	29
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	34	1	59
129	110	61	60	66	51	23	17	5	4	1	1	1	1	48	38	868	1,026	1,894
1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	1	21	1	1
2	2	2	2	1	1	1	1	1	1	1	1	1	1	3	1	21	14	35
132	112	64	63	69	52	24	17	5	4	1	1	1	1	52	38	966	1,106	2,072
166	156	105	129	128	119	62	75	20	14	1	3	1	1	63	52	1,239	1,445	2,684

TABLE D—

CLASS THREE—LOCAL DISEASES.	Under 1		1 to 5.		5 to 10.		10 to 15.		15 to 20.		20 to 30.		30 to 40.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
ORDER ONE—NERVOUS SYSTEM.														
Apoplexy	3	1		1	1	1	2	2	3	1	6	1	6	6
Brain, abscess	32			1			1	1			6			
Brain, congestion	39	19	16	13	4	6	4	2	5	1	2	7	3	8
Brain disease	4	8	1	2	1				2	2	2	2		1
Brain, effusion				1										
Brain fever	14	18	6	6	5	6		1	1	2	4	3	1	
Brain, softening	2	1										2		3
Brain, tumor														
Cerebritis	14	13	11	5	2	2	3	2	2	4		3	1	4
Chorea								1	1		1			
Convulsions	99	70	24	21	3	5		1	1	1		3		
Epilepsy	1					1		4	6	4	10	1	8	5
Insanity											1	1	1	1
Locomotor ataxia											1	1		
Meningitis	62	45	54	35	11	13	5	5	2	6	4	3	5	3
Meningitis, cerebral	5	3	2	1	4		3	1	1	1	1			
Meningitis, spinal	5	2	3	8	2	4	1	1	1	1		1	1	
Myelitis	1	1	2	1			1					1	1	1
Nervous prostration										1			1	
Neuralgia												1		
Neurasthenia										1				1
Paralysis	2	1	5	2	2	1	2	2	1	1	9	3	7	7
Rachitis		1	1	1					1	1				
Spina bifida	3	8			1									
Spinal sclerosis														
Spine disease		2	4	4	1	1		2	2	1	1		1	
Tetanus	3	4	3	1		1	2	1	2	1	2	2	3	
Total	259	197	133	103	37	41	24	24	28	28	49	33	42	41
ORDER TWO—CIRCULATORY.														
Aneurism													1	
Congestion	2	5	3	2	2		1			1	1	1		1
Embolism												1		
Endocarditis											4			2
Epistaxis		1					1							
Heart disease	20	14	6	6	5	2	9	8	10	16	17	30	30	31
Hemorrhage	3	1	1	1				1		1	2	2	2	4
Phlebitis														
Total	25	20	10	9	7	2	11	9	10	18	24	34	33	38
ORDER THREE—RESPIRATORY.														
Asthma	2	3	1	1		1					1	2	2	4
Apnoea														
Bronchitis	45	34	19	19	3	1		1	1	2	5	6	6	4
Catarrh	1	2	1	1			1							
Glottis, oedema				1	1							1		
Hæmoptysis											4	1	3	3
Hydrothorax														
Influenza		1												
Laryngitis	2	3	5	4	1	2	1		1		3		1	1
Lungs, abscess	2								1	2		1	2	3
Lungs, congestion	14	8	5	4	2	1		2	1	2	5	3	7	5
Lungs, disease	2	5	2	1			1	1	2	1	2	2		
Lungs, emphysema							1		2					
Lungs, oedema				1										
Pharyngitis			1	1								1	1	
Pleuritis	1	1								1	2	2	1	
Pneumonitis	66	69	69	59	30	22	15	12	23	27	51	49	46	37
Pneumonitis, broncho	3	3	5	2			1	1			2	1		
Pneumonitis, catarrhal	4	3	1	3		1								
Pneumonitis, pleuro		1											2	
Pneumonitis, typho	1		2	1				1	1	1	2			1
Total	144	133	111	98	37	29	21	19	33	34	82	70	70	58

Continued.

40 to 50.		50 to 60.		60 to 70.		70 to 80.		80 to 90.		90 to 100.		Over 100		Not Re-ported.		Males.	Females.	Total.	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.				
15	8	34	23	34	28	44	35	15	9	1		1		14	1	179	117	296	
2	4	1	1	4	3	1	8	3	2					1	1	6	3	9	
1	3	7	3	6	1	4	1	1	1						1	94	68	162	
																29	24	53	
																	1	1	
2	1	3	6	6	5	1	8	3	1	1				1	2	32	37	69	
1	3		1	1	2											25	22	47	
1														3	3	1		1	
1	1															40	42	82	
1	1	2	1	2	1	1	1	1						1	1	3	1	4	
1	1	2	1	1	1											129	101	230	
1	1	2	3	1			2		1							32	18	50	
6	3	3	1													4	5	9	
1	1	1			1		1							2	2	6	1	7	
3														1	1	156	118	274	
																19	9	28	
																13	19	32	
																7	5	12	
																6	6	12	
																1	4	5	
																1	3	4	
13	14	36	23	45	35	36	45	19	12	2				5	4	184	150	334	
				1											1	2	4	8	
							2									3	4	12	
								1								2	3	5	
																20	13	33	
																18	11	29	
56	43	93	69	109	81	108	88	41	22	3		1		31	20	1,014	790	1,804	
1			1		1	1	1	2		1				1		2	2	4	
2	1		1		1											14	14	28	
			2													5	3	8	
									1							5	5	10	
44	32	89	50	95	74	85	67	22	19	2	4			17	12	451	376	827	
3	4		1		1									4	3	1	1	2	
																15	19	34	
50	49	91	55	97	76	86	70	22	20	3	4			22	15	493	420	913	
2	2	8	2	4	3	2	4								2	22	24	46	
9	5	9	3	11	17	12	17	3	1	4				5	2	131	119	250	
2	2		1		1	1			1							6	8	14	
																2	2	4	
		2	3	3	2	1										15	9	24	
																1		1	
																	2	2	

TABLE D—

CLASS THREE—LOCAL DISEASES.	Under 1		1 to 5.		5 to 10.		10 to 15.		15 to 20.		20 to 30.		30 to 40.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
ORDER FOUR—DIGESTIVE.														
Bowels, catarrh	2	1												
Bowels, congestion	4	1	3	3	1		1		2		3	3	2	3
Bowels, disease	2					1					2	1	1	
Bowels, hemorrhage	2						1				2	2	3	
Bowels, obstruction	5	2	4				2		2	1	1			3
Bowels, paralysis														
Bowels, ulceration			1						1				1	
Colic	1	1												
Colitis	4	4	5	1										
Dyspepsia	4	6		2										
Enteritis	30	27	6	23	5	3	3	4	4	5	6	5	5	6
Gall stones		6	3	1		3	1		1	2	3	1	2	2
Gastritis	3	7	10	5	4	2	2				3	1	2	1
Gastro-enteritis											1	1	3	1
Hepatitis		1	1					1	2				1	3
Hernia														
Intestinal perforation					1									
Intussusception	3	1		1	1	2		1	1	1	1	1		1
Jaundice	5	3	1	1							1	1		2
Liver, abscess											1		1	
Liver, atrophy	1	1											1	
Liver, cirrhosis									1			2	1	7
Liver, congestion	3								1		1	1		1
Liver, disease				1			1				1	1		
Liver hypertrophy													1	
Esophagus stricture														
Peritonitis	4	1	5	2	2	4	6	5	3	6	7	19	4	22
Splenitis	2	1												
Stomach, catarrh	5				1	1					1		3	
Stomach, congestion	7		2	2		1			1	2	2	1		3
Stomach, disease	1	1	2	1		1		2		1	1	1		1
Stomach, hemorrhage	1													
Stomach, ulceration											1			
Stomatitis	5	1	2	2							1			
Throat disease			1			1								
Tonsillitis	1		2			1	1						1	
Typhlitis	1						3	1	1	3			1	
Total	106	69	42	46	12	20	16	16	17	20	38	46	42	56
ORDER FIVE—URINARY.														
Albuminuria			1				1				2	2		2
Calculus														1
Cystitis					1						1		2	
Diabetes						2	1	1	2		4	2	5	2
Hodgkin's disease					1									
Kidney disease	2	1		1					1	1		1	3	
Nephria	1		1	1	1	1			1	2	8	4	5	6
Nephritis	1		3	2	2		1	1	2	3	2	5	5	4
Prostatitis														
Uræmia	2	5		2								5	1	5
Urethra, stricture														
Urine, suppression	2												1	1
Total	6	6	5	6	5	3	3	2	5	6	17	19	23	21
ORDER SIX—GENERATIVE.														
Metritis									2					1
Ostitis						1					1			
Ovaritis														1
Tumor, ovarian												1		3
Tumor, uterus														2
Total						1				2	1	1		7

Continued.

40 to 50.		50 to 60.		60 to 70.		70 to 80.		80 to 90.		90 to 100.		Over 100.		Not Reported.		Males.	Females.	Total.
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
1	2	1	1	4	3	..	..	1	..	..	..	..	..	1	1	3	1	4
1	1	..	1	..	1	..	..	2	..	..	..	..	..	1	..	24	13	37
1	1	2	2	1	2	1	3	2	..	..	..	..	..	..	..	5	9	14
1	1	1	1	1	1	1	1	1	..	..	..	..	..	..	..	5	8	13
1	1	1	1	1	1	1	1	1	..	..	..	..	..	..	..	24	16	40
1	1	1	1	1	1	1	1	1	..	..	..	..	..	..	..	1	1	1
1	1	1	1	1	1	1	1	1	..	..	..	..	..	..	..	5	5	10
1	6	4	3	8	6	10	7	7	..	..	..	..	..	..	..	2	2	4
1	1	1	1	1	1	1	1	1	..	..	..	..	..	..	..	15	10	25
1	1	1	1	1	1	1	1	1	..	..	..	..	..	..	..	7	9	16
1	6	4	3	8	6	10	7	7	..	..	..	..	..	..	..	84	104	188
3	2	2	2	2	2	13	9	3	2	..	..	..	..	1	1	2	6	8
3	5	1	3	2	3	1	4	1	..	..	..	..	..	1	1	45	43	88
3	1	2	2	4	3	1	1	1	..	..	..	..	..	1	1	23	38	61
1	4	4	4	4	4	1	1	2	..	..	..	..	..	1	1	19	8	27
1	1	1	1	1	1	1	1	1	..	..	..	..	..	1	1	11	11	22
1	1	1	1	1	1	1	1	1	..	..	..	..	..	1	1	7	9	16
1	1	1	1	1	1	1	1	1	..	..	..	..	..	1	1	14	15	29
1	1	1	1	1	1	1	1	1	..	..	..	..	..	1	1	9	8	17
10	1	1	1	1	1	1	1	1	..	..	..	..	..	1	1	7	2	9
2	5	3	1	5	2	2	2	1	..	..	..	..	..	1	1	36	12	48
1	1	1	1	1	1	1	1	1	..	..	..	..	..	1	1	5	4	9
1	1	1	1	1	1	1	1	1	..	..	..	..	..	1	1	7	18	25
1	1	1	1	1	1	1	1	1	..	..	..	..	..	1	1	1	1	1
5	9	3	4	3	1	5	2	2	1	..	..	..	..	1	1	49	77	126
1	2	3	1	2	1	1	1	1	..	..	..	..	..	1	1	2	1	3
1	1	1	1	1	1	1	1	1	..	..	..	..	..	1	1	17	4	21
1	1	1	1	1	1	1	1	1	..	..	..	..	..	1	1	15	18	33
1	1	1	1	1	1	1	1	1	..	..	..	..	..	1	1	11	11	22
1	1	1	1	1	1	1	1	1	..	..	..	..	..	1	1	5	1	6
1	1	1	1	1	1	1	1	1	..	..	..	..	..	1	1	7	4	11
1	1	1	1	1	1	1	1	1	..	..	..	..	..	1	1	8	3	11
1	1	1	1	1	1	1	1	1	..	..	..	..	..	1	1	2	1	3
1	1	1	1	1	1	1	1	1	..	..	..	..	..	1	1	2	3	6
1	1	1	1	1	1	1	1	1	..	..	..	..	..	1	1	10	5	15
38	44	47	46	54	50	48	42	13	15	..	..	..	..	17	11	490	481	971
..	2	1	3	..	..	1	..	..	..	..	..	..	..	2	1	8	10	18
4	1	1	..	..	..	1	..	..	..	..	..	..	..	1	1	2	2	4
7	7	2	1	9	1	12	3	6	1	1	..	..	..	1	1	38	6	44
1	..	4	1	3	1	6	9	1	..	..	..	..	..	1	1	32	20	52
9	3	7	10	13	3	9	5	9	..	..	..	..	..	2	1	2	6	2
10	3	5	5	5	3	2	1	1	..	..	..	..	..	2	1	20	35	26
1	1	3	1	9	3	6	2	3	..	..	..	..	..	2	2	64	30	99
1	1	1	1	1	1	1	1	1	..	..	..	..	..	2	2	40	2	70
1	1	1	1	1	1	1	1	1	..	..	..	..	..	1	1	24	26	50
1	1	1	1	1	1	1	1	1	..	..	..	..	..	1	1	5	2	1
25	18	27	21	48	16	43	13	19	2	2	..	..	..	8	4	238	137	375
1	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	6	6
1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	1	3
1	2	..	4	..	1	2	..	..	..	..	..	..	..	1	1	..	14	2
1	1	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	5	5
1	3	..	9	..	1	..	3	..	..	..	..	..	..	1	1	2	28	30

TABLE D—

CLASS THREE—LOCAL DISEASES.	Under 1		1 to 5.		5 to 10.		10 to 15.		15 to 20.		20 to 30		30 to 40.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
ORDER SEVEN—LOCOMOTARY.														
Necrosis of tibia . . . . .	..	..	..	..	..	..	..	..	..	..	1	..	..	..
ORDER EIGHT—INTEGUMENTARY.														
Abscess	2	4	1	..	2	4	..	1	..	1	3	1	2	1
ORDER NINE—MISCELLANEOUS.														
Cellulitis . . . . .	..	..	..	..	..	..	..	..	..	..	3	..	..	2
Otitis, media . . . . .	..	..	..	..	..	..	..	1	..	..	..	..	..	..
Tumor . . . . .	..	..	..	1	..	..	..	..	..	..	..	..	..	..
Total . . . . .	..	..	..	1	..	..	..	1	..	..	3	..	..	2
Total local diseases . .	542	429	302	263	100	100	75	69	93	109	215	207	212	224

Continued.

40 to 50.		50 to 60.		60 to 70.		70 to 80.		80 to 90.		90 to 100.		Over 100.		Not Re- ported.		Males.	Females.	Total.
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	2	..	2
1	2	1	1	2	..	2	2	1	.	..	..	..	..	..	..	17	17	34
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	5
..	1	1	1	1	4	..	1	..	..	..	..	..	..	..	1	2	1	11
..	1	1	1	1	4	..	1	..	..	..	..	..	..	..	1	2	15	17
231	207	339	264	396	303	366	294	118	86	12	10	1	1	113	77	3,115	2,643	5,758

TABLE D—

CLASS FOUR—DEVELOPMENTAL.	Under 1		1 to 5.		5 to 10.		10 to 15.		15 to 20.		20 to 30.		30 to 40.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
ORDER ONE—CHILDREN.														
Atelectasis	10	5	1	..	..	..	..	..	..	..	..	..	..	..
Birth, injuries	9	4	..	..	..	..	..	..	..	..	..	..	..	..
Birth, premature	75	66	..	..	..	..	..	..	..	..	..	..	..	..
Cyanosis	22	26	1	3	..	..	..	..	..	..	..	..	..	..
Dentition	2	2	2	3	..	..	..	..	..	..	..	..	..	..
Hemorrhage, umbilical	2	3	..	..	..	..	..	..	..	..	..	..	..	..
Malformation	9	11	1	..	..	..	..	..	..	..	..	..	..	..
Malnutrition	10	11	1	..	..	..	..	..	..	..	..	..	..	..
Prolapsus, funis	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	140	128	5	7	..	..	..	..	..	..	..	..	..	..
ORDER TWO—WOMEN.														
Climacteria . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Parturition . . . . .	..	..	..	..	..	..	..	..	5	..	19	..	..	12
Placenta, previa . . . . .	..	..	..	..	..	..	..	..	..	..	2	..	..	..
Post-partum hem . . . . .	..	..	..	..	..	..	..	..	..	..	2	..	..	3
Puerperal eclampsia . . . . .	..	..	..	..	..	..	..	..	4	..	19	..	..	5
Uterine hem . . . . .	..	..	..	..	..	..	..	..	..	..	2	..	..	5
Uterus, disease . . . . .	..	..	..	..	..	..	..	..	..	..	1	..	..	2
Total . . . . .	..	..	..	..	..	..	..	..	9	..	45	..	..	27
ORDER THREE—OLD AGE.														
Old age . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
ORDER FOUR—NUTRITION.														
Asthenia	1	..	..	..	..	..	1	1	..	..	1	..	..	..
Debility	11	4	1	2	1	1	1	1	1	..	1	..	3	..
Exhaustion	19	21	..	2	1	..	1	1	..	..	1	1	2	6
Marasmus	37	20	3	1	1	..	..	3	..	..	1	1	1	..
Total	68	45	4	5	3	1	2	6	1	1	3	4	6	6
Total developmental	208	173	9	12	3	1	2	6	1	10	3	49	6	33

Continued.

40 to 50.		50 to 60.		60 to 70.		70 to 80.		80 to 90.		90 to 100.		Over 100.		Not Re-ported.		Males.	Females.	Total.
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	11	5	16
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	9	4	13
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	75	66	141
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	23	29	52
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4	5	9
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	3	5
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	9	12	21
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	11	11	22
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	1
																145	135	280
.
.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	1
.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	39	39
.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	2
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	6	6
.	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	30	30
.	1	.	1	.	.	.	2	.	2	.	.	.	.	.	.	1	14	14
																.	7	7
.	7	.	3	.	.	.	2	.	2	.	.	.	.	.	.	4	99	99
.
.	.	.	1	5	12	48	60	84	73	13	22	.	2	14	10	165	180	345
.
.	.	1	3	3	2	2	1	1	1	1	2	.	.	7	1	10	8	18
2	2	5	5	9	7	18	16	10	9	1	2	.	.	.	4	71	55	126
4	1	7	2	2	9	4	1	4	10	2	.	.	.	.	.	47	54	101
.	1	1	1	1	1	1	1	5	1	1	.	.	.	2	.	52	31	83
6	4	14	11	15	19	25	18	20	20	4	3	.	.	9	5	180	148	328
6	11	14	15	20	31	73	80	104	95	17	25	.	2	33	19	490	562	1,052

TABLE D—

CLASS FIVE—VIOLENCE.	Under 1		1 to 5.		5 to 10.		10 to 15.		15 to 20.		20 to 30.		30 to 40.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
ORDER ONE—ACCIDENTS.														
Accident	10	15	7	7	7	2	12		12	1	31	2	35	.9
Accident, railroad			1	2		2	4		7	1	32	5	20	1
Boiler explosion									3				1	
Burn	3	3	14	9	2	5	1	2	3	1	1	3		2
Drowning			3	1	3		6	1	7		11		5	1
Hydrophobia						1			1					
Insolation						1				1	5		2	
Lightning												1		
Poison	3			1					1	4	6	2	1	
Shooting					1				7		13	1	8	
Total	16	18	25	20	13	11	23	3	41	8	99	14	72	13
ORDER THREE—HOMICIDE.														
Homicide											3		1	1
ORDER FOUR—SUICIDE.														
Drowning												1	1	
Hanging											3		2	
Poison									3		2	3	2	
Shooting										2			3	
Suicide									3	7	4	4	4	2
Total									6	14	8	12	2	
Total violence	16	18	25	20	13	11	23	3	41	14	116	22	85	16
Unknown	80	47	20	12	5	2	1	4	2	8	15	10	5	12
RECAPITULATION.														
Zymotic diseases	659	540	431	419	178	203	62	92	95	113	157	228	96	147
Constitutional	53	44	47	43	15	27	27	39	77	127	267	361	197	258
Local	542	429	302	263	100	100	75	69	93	109	215	207	212	224
Developmental	208	173	9	12	3	1	2	6	1	10	3	49	6	33
Violence	16	18	25	20	13	11	23	3	41	14	116	22	85	16
Unknown	80	47	20	12	5	2	1	4	2	8	15	10	5	12
Grand total	1558	1251	834	769	314	344	190	213	309	381	773	877	601	690

Continued.

40 to 50.		50 to 60.		60 to 70.		70 to 80.		80 to 90.		90 to 100.		Over 100.		Not Reported.		Males.	Females.	Total
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
30	1	27	1	17	6	10	7	5	3	2	2			10	2	215	58	273
20	1	8		11	1	7	2	1	1					6		117	16	133
1														1		6		6
1	1	2	1		2	3	3		1							30	33	63
2		3		2				1						1		44	4	48
																1	1	2
3		2	1	2				1								15	3	18
1																1	1	2
	3	4	2	4		1		1						1		21	13	34
2		3		1										4		39	1	40
60	6	49	5	37	9	21	13	9	5	2	2			22	3	489	130	619
	1													1		5	2	7
1				1		1	1									4	2	6
1	1	4		3	1	1	1									14	3	17
2	2	2		1	2	1										10	10	20
2		1														8		8
4	2	4	1	5			1			1				3		28	13	41
10	5	11	1	10	3	3	3			1				3		64	28	92
70	12	60	6	47	12	24	16	9	5	3	2			26	3	558	160	718
6	8	8	8	11	15	9	14	8	9					20	14	190	163	353
102	86	87	58	89	73	92	70	43	30	8	4			37	36	2,136	2,099	4,235
166	156	105	129	128	119	62	75	20	14	1	3			63	52	1,239	1,445	2,684
231	207	339	264	396	303	366	294	118	86	12	10	1	1	113	77	3,115	2,643	5,758
6	11	14	15	20	31	73	80	104	95	17	25		2	23	19	490	562	1,052
70	12	60	6	47	12	24	16	9	5	3	2			26	3	558	160	718
6	8	8	8	11	15	9	14	8	9					20	14	190	163	353
581	480	613	480	691	553	626	549	302	239	41	44	1	3	282	201	7,728	7,072	14,800

DEATHS IN CERTAIN CITIES.

The following table of deaths reported from the cities enumerated, in which burial permits are required, give widely different results, showing a death rate per thousand varying from 7.4 to 18. The latter rate, as will be seen, is the same in Columbus, Evansville and Michigan City. Those of Indianapolis, Richmond and Terre Haute are nearly the same, being 14.7, 14.3 and 14.8 respectively.

Although a burial permit is required by ordinance, either the law is not enforced in some of these cities, or the reports to this office are not correct. There is no such variation in the death rate per thousand in different localities in the State as this exhibit seems to indicate.

From the most reliable data at hand the death rate in Indiana is between 16 and 18, although the total number of deaths reported to this office, including still-births, is 15,648, which, with a population of 2,200,000 shows a death rate of 7.1. From the foregoing it is easily to be seen that not one-half of the deaths are reported. This state of things is largely due to the fact that County Boards of Health (County Commissioners) do not pay health officers half as much as the work is worth, and also to the vicious system of letting the contract to the lowest (not the best) bidder. It is to be sincerely hoped that, at no distant day, this state of things will be remedied, and that Indiana will, in this as in other matters, stand fully abreast with the most progressive States of the Union. "What is worth doing at all is worth doing well."

CITIES.	Population.	Number of Deaths.	Rate Per Thousand.
Cannelton	2,005	18	9
Columbus	6,784	123	18
Evansville	50,674	*690	18
Indianapolis	105,000	*1,160	14.7
Laporte	7,122	69	9.6
Michigan City	10,704	193	18
New Albany	30,000	223	7.4
Richmond	16,849	242	14.3
Tell City	2,050	31	15
Terre Haute	32,586	484	14.8
Valparaiso	5,083	65	12.8

* Deaths reported for nine months only.

DIARRHOEAL DISEASES.

Under this head are included cholera infantum, cholera morbus, diarrhoea, dysentery and entero-colitis.

The whole number of deaths reported from these causes is 1,125, an increase over last year of 75. The greatest number, 751, or 66½ per cent., occurred in June, July and August. Cholera infantum caused 640 deaths, of which number 489 were under one year of age.

It is not exaggeration to say that a large majority of them were victims of neglect or carelessness on the part of parents, caused by improper food and care. And yet we are frequently told by an over-zealous or misguided minister, in order to console the friends, that their death was an act of Divine Providence, and not unfrequently the text on funeral occasions is: "Suffer little children to come unto me, and forbid them not, for of such is the Kingdom of Heaven."

DIPHTHERIA.

The total number of deaths reported from this cause is 439, an increase over those reported last year of 65, the greatest number being between five and ten years of age, viz., 172; although 168 were between one and five.

We deem it proper to repeat here the following from one who is authority upon the subject, and earnestly commend it to those under whose observation it may chance to come:

Dr. O. W. Wight, the late efficient Health Officer of Detroit, after many years of experience in sanitary work, lays down the following propositions after investigating several thousand cases of diphtheria:

1. The gaseous emanations of filth, organic matter in process of putrefaction, is the very breath of life to diphtheria. It loves broken drains, untrapped waste pipes, unventilated soil pipes, manure heaps and foul sewers. It delights in a habitation built on a site filled in with street cleanings. Basements flooded with sewage charms the fiend. The smell of rotten vegetables in the cellar it construes into an invitation to call and make itself at home. Excrement, sodden soil, and polluted drinking water make it happy.



2. Diphtheria is contagious and infectious. Food tasted by the sick, the air of an unventilated chamber, drinking cups, towels, pocket handkerchiefs, anything that will convey the subtle poison from the diseased mucous membrane of persons in the vicinity, will communicate the distemper. Many a child is killed with a diphtheria kiss.

3. As a rule, people will have small-pox, scarlet fever, measles, and many other infectious diseases but once. Diphtheria is an outlaw, and repeats itself as often as it gets a chance.

4. Nursing children and old people are not apt to have diphtheria, but may have it. Mature women take their nurslings with them to see a diphtheria patient or corpse, and are ready to swear that the disease is not "catching" because neither they nor their babes have been affected.

5. So-called membranous croup, except where traumatic, is identical with diphtheria. Some doctors still call diphtheria "membranous croup," when it affects the larynx and trachea, and is not visible in the throat. Terrible mischief may be done when the wrong name leads to the supposition that the disease is not contagious. Death frequently steps in to break the dangerous obstinacy of practitioners and people on this point.

6. Sore throats are as dangerous as Egyptian sore eyes. They may contain a contagious diphtheritic element, especially when diphtheria is epidemic. Some physicians tell the people that all cases of real diphtheria terminate in death. The inference is that cases which get well are not diphtheria at all. Such physicians are fools or knaves; fools if they don't know any better; knaves if they are attempting to disarm precaution for the purpose of increasing trade. The mortality of diphtheria averages about forty per cent., the same as that of small-pox.

7. Diphtheria, which is now the most continually murderous contagious disease afflicting the civilized portions of mankind, can not be eradicated till communities and people eliminate filth, or in other words, till all organic wastes are removed from inhabited places before the process of putrefaction evolves the gases that feed it. Isolation and disinfection can materially check its career, but can not entirely stop it, while cesspools, vaults, polluted drains, foul sewers, and areas of soil contaminated with stagnant water and animal excreta, continue to

distill their poisons into the air which we breathe and into the water which we drink.

People sometimes ask why, if these things are so, diphtheria prevails in the open country not less than in cities. It flourishes in the country for the simple reason that the drinking water of the farm house is often furnished by the well into which sweeps the drainage of a foul vault or rotten barnyard, and the inmates of the farm house breathe air reeking with putrescent slops ponded about the kitchen door. The habitations of the country, as a rule, are in worse sanitary condition than those of cities.

Diphtheria being such a virulent disease, easily communicated both by contagion and infection, every case should be strictly quarantined, let the case be ever so mild.

As the emanations from the body of a person who has died with the disease are highly poisonous and dangerous, the funeral, under all circumstances, should be strictly private, and a public one should never be tolerated.

FEVERS.

The deaths from the various kinds of fevers reported are as follows:

Malarial fevers	207
Scarlet fever	124
Typhoid fever	743
Total.....	1,074

The number of cases of typhoid fever reported, 743, is a decrease from last year of 65. The greatest number dying from this cause were between the ages of twenty and thirty, 179, though it claimed victims of all ages between the infant under one year and the aged between eighty and ninety. Of the other zymotic diseases, measles, pertussis and croup were the most fatal, claiming respectively, 69, 159 and 190. In this connection the reader is referred to item five of the foregoing, from the pen of Dr. O. W. Wright, in relation to the similarity of croup and diphtheria.

PHTHISIS PULMONALIS.

The total number of deaths reported from this cause is 1,894, of which 868 are males and 1,026 are females; the greatest number, 575, being between twenty and thirty years of age. The recent experiments by Dr. Koch, the celebrated German scientist, give some hope of at least partial relief from this dreadful and fatal malady. We cite the reader and student to an article in our report of 1889, on page 206, by Drs. Biggs, Prudden and Loomis, pathologist of the State Board of Health of New York, on Prevention of Consumption.

ACUTE LUNG DISEASES.

Under this head are grouped bronchitis, congestion of the lungs, influenza, pleurisy, pneumonia, broncho-pneumonia, catarrhal, pleuro and typho-pneumonia. The number of deaths from these causes are 1,421, of which pneumonia caused 996 of the whole number; 223 occurred in January, 274 in February and 199 in March, a total of 696.

SUMMARY.

The total number of deaths from all causes, exclusive of still births, reported are 14,800, of which number 4,235 are zymotic, 2,684 constitutional, 5,758 local, 1,052 developmental, 718 violence, and 353 from unknown causes.

POOR ASYLUMS AND JAILS.

Blanks for the sanitary survey of poor asylums and jails were mailed to all the County Health Officers July 15, 1890, with the request "to fill all blanks and return them at your earliest convenience." Only sixty-five responded, leaving twenty-seven not heard from.

Although the ventilation in nearly all is reported "good" yet in quite a number they are reported as ventilated only by windows and doors, which in our judgment is insufficient, and therefore considered "bad." The heating is fairly good, though in eight asylums it is reported as not sufficient.

Thirty asylums and forty prisons are in need of repairs or improvements. These needed repairs and improvements are

not specifically reported, but from a complete examination of the answers to all the questions, it is very evident that the buildings are by no means perfect in matters pertaining to the health of the inmates.

We feel warranted in saying that great improvements have been made in these institutions, both in their construction and management since this Board first caused sanitary investigations to be made. Much, however, remains to be done before they will, in all respects, be what advanced sanitation requires that they should be.

SANITARY SURVEY OF COUNTY ASYLUMS FOR THE POOR.

COUNTIES.	INMATES.		Insane.	Idiotic.	Number Died.	VENTILATION.		HEATING.		WATER CLOSETS.		Needing Repairs.
	Male.	Female.				Good.	Bad.	Good.	Bad.	Good.	Bad.	
Adams	8	7	..	5	1	1	..	1	..	1	..	..
Allen	..	..	..	..	..	..	..	..	..	..	..	..
Bartholomew	10	22	14	5	4	1	..	1	..	1	..	1
Benton	..	..	..	..	..	..	..	..	..	..	..	..
Blackford	9	12	3	1	..	..	1	1	..	1	..	..
Boone	14	20	1	..	4	1	..	1	..	1	..	..
Brown	2	4	..	4	..	1	..	1	..	1	..	..
Carroll	13	17	..	3	..	..	1	1	..	1	..	1
Cass	..	..	..	..	..	..	..	..	..	..	..	..
Clark	..	..	..	..	..	..	..	..	..	..	..	..
Clay	..	..	..	..	..	..	..	..	..	..	..	..
Clinton	22	15	7	2	3	1	..	1	..	1	..	1
Crawford	8	8	3	1	1	1	..	1	..	1	..	..
Daviess	9	8	2	2	9	1	..	1	..	1	..	..
Dearborn	24	14	8	3	11	..	1	1	..	1	..	1
Decatur	..	..	..	..	..	..	..	..	..	..	..	..
Dekalb	18	16	4	1	6	..	1	1	..	..	1	1
Delaware	..	..	..	..	..	..	..	..	..	..	..	..
DuBois	..	..	..	..	..	..	..	..	..	..	..	..
Elkhart	29	19	..	..	4	1	..	1	..	..	1	..
Fayette	21	15	2	4	6	..	1	1	..	1	..	..
Floyd	29	25	9	2	6	1	..	1	..	1	..	..
Fountain	13	8	9	7	5	1	..	1	..	1	..	..
Franklin	22	16	8	3	8	..	1	1	..	1	..	1
Fulton	7	4	1	4	1	1	1	1	..	1	..	..
Gibson	16	8	2	3	2	..	1	1	..	1	..	1
Grant	16	14	2	2	5	1	..	1	..	1	..	..
Greene	10	11	8	4	1	1	..	1	..	1	..	1
Hamilton	24	22	4	3	4	..	1	1	..	1	..	1
Hancock	..	..	..	..	..	..	..	..	..	..	..	..
Harrison	18	10	4	6	..	1	..	1	..	1	..	..
Hendricks	19	15	20	9	2	..	1	1	..	1	..	1
Henry	21	15	..	5	5	1	..	1	..	1	..	..
Howard	13	6	3	6	8	1	..	1	..	..	1	1
Huntington	17	13	7	..	1	..	1	..	1	1	..	1

SANITARY SURVEY OF COUNTY ASYLUMS—Con.

COUNTIES.	INMATES.		Insane.	Idiotic.	Number Died.	VENTILA-TION.		HEATING.		WATER CLOSETS.		Needing Repairs.
	Male.	Female.				Good.	Bad.	Good.	Bad.	Good.	Bad.	
Jackson..	10	16	4	2	2	1		1		1		1
Jasper												
Jay	18	18			1		1		1		1	1
Jefferson	30	22	28	1	2	1				1		
Jennings	24	12	4	6			1	1		1		
Johnson												
Knox	15	13	5	1	2	1		1		1		
Kosciusko	17	12	4	1	1	1		1		1		1
Lagrange	10	6	5		1		1	1		1		1
Lake	15	7		3		1			1	1		1
Laporte.	20	22	7	6	4	1		1		1		
Lawrence.	24	16	5	1	7		1	1		1		1
Madison												
Marion												
Marshall	12	9	4	12	3	1		1		1		
Martin	14	12	5	3	2		1	1		1		
Miami	22	13	2	4	1	1		1		1		
Monroe												
Montgomery	24	16	6	11	5	1		1		1		
Morgan	20	13		2	2	1		1		1		
Newton	3	1			2	1		1		1		1
Noble												
Ohio												
Orange												
Owen	14	14	1	4	1		1		1		1	1
Parke	12	14	9		1	1		1		1		
Perry	10	10	4	4	7	1			1	1		1
Pike	7	6	1	1	1	1		1		1		1
Porter	18	6	1	1	3	1		1		1		1
Posey	16	16	3			1		1			1	1
Pulaski	9	9				1		1		1		
Putnam	25	20	6	4	1	1		1		1		
Randolph.	16	17	2	4	1	1		1		1		
Ripley	14	18	9	9	4	1		1		1		
Rush	16	11	6	1	2	1		1		1		
Scott	6	6	2	5		1		1		1		
Shelby	27	14		2	2		1	1		1		1
Spencer.												
Starke												
Steuben.												
St. Joseph	36	10		1	2	1		1		1		
Sullivan	6	3	3	1	4		1		1	1		1
Switzerland	24	16	2	2	5	1		1			1	1
Tippecanoe.	68	30	28	5	5	1		1		1		
Tipton												
Union.												
Vanderburgh.												
Vermillion												
Vigo	56	30	20	2	7	1		1		1		
Wabash.												
Warren												
Warrick	9	5	2	4	2		1		1		1	1
Washington	15	15	2	10	4	1		1		1		1
Wayne	25	16	7	2	2	1		1		1		
Wells												
White	8	4	6		3		1		1			1
Whitley.	20	16		4	3	1		1		1		
Total	1,137	858	303	200	184	45	20	57	8	56	8	30

SANITARY SURVEY OF COUNTY PRISONS.

COUNTIES.	VENTILA- TION.		WATER CLOSETS.		Prisoners.	Insane.	Number died.	Needing im- provements.
	Good.	Bad.	Good.	Bad.				
Adams	1			1	7			1
Allen								
Bartholomew		1	1		6			1
Benton								
Blackford	1		1		5			
Boone	1			1	2			1
Brown	1			1	1			
Carroll	1		1		3	2		
Cass								
Clark								
Clay								
Clinton	1			1	12	1		1
Crawford		1		1	4			1
Daviess	1		1		3			1
Dearborn		1		1	8			1
Decatur								
Dekalb	1		1		5			1
Delaware								
Dubois								
Elkhart		1	1		19	3		1
Fayette	1		1		4			
Floyd	1		1		25		1	
Fountain				1	5	1		1
Franklin	1		1		2			
Fulton		1	1					1
Gibson	1		1		6			
Grant		1		1	12			1
Greene	1		1		2			
Hamilton	1		1		5	1		
Hancock								
Harrison	1		1		1			
Hendricks	1		1		6			
Henry		1	1		9			1
Howard	1		1		3			1
Huntington		1	1		2			1
Jackson	1			1	2			1
Jasper								
Jay		1		1	1			1
Jefferson	1		1		4		1	1
Jennings	1		1		4			1
Johnson								
Knox	1		1		12			
Kosciusko	1		1		2			
Lagrange	1		1		1			
Lake	1			1	3			1
Laporte	1		1		14	1	1	
Lawrence		1		1	9			1
Madison								
Marion								
Marshall	1		1		5	1		
Martin	1		1					
Miami		1	1		2			1
Monroe								
Montgomery		1	1		6		1	1
Morgan								

SANITARY SURVEY OF COUNTY PRISONS—Continued.

COUNTIES.	VENTILA- TION.		WATER CLOSETS.		Prisoners.	Insane.	Number died.	Needing Im- provements.
	Good.	Bad.	Good.	Bad.				
Newton					2			1
Noble	1		1					
Ohio								
Orange								
Owen	1			1	2			1
Parke	1		1					
Perry	1			1	1			1
Pike	1			1	6	1		1
Porter	1		1					1
Posey	1		1		8	1		
Pulaski		1		1	1			1
Putnam	1			1	1			1
Randolph	1		1		9			
Ripley				1				1
Rush		1		1	1	1		1
Scott	1			1				1
Shelby	1		1		5		1	1
Spencer								
Starke								
Steuben								
St. Joseph		1	1		21	1	1	1
Sullivan	1		1		4			
Switzerland		1	1					1
Tippecanoe	1		1		18	1		
Tipton								
Union								
Vanderburgh		1		1	31	2	1	1
Vermillion								
Vigo								
Wabash								
Warren	1		1		2	1		
Warrick	1		1		3			
Washington								
Wayne		1	1		13	1		1
Wells		1	1				1	
White								1
Whitley	1			1	2			
Total	44	20	41	23	355	19	8	40

LETTERS FROM COUNTY HEALTH OFFICERS.

ADAMS COUNTY.

C. N. Metcalf, M. D.:

DEAR DOCTOR—In reply to your circular letter of September 20, I will state that the sanitary condition of this county for the year ending September 30, 1890, has been good.

There has been no small-pox or scarlatina, six cases of diphtheria, one case of cerebro-spinal fever, ten cases of typhoid fever, and about three hundred cases of la grippe.

Physicians have been very slow in reporting these cases.

The County Poor Asylum is in good sanitary condition.

Respectfully yours,

H. F. COSTELLO, M. D.,
Secretary County Board of Health.

BARTHOLOMEW COUNTY.

C. N. Metcalf, M. D., *Secretary State Board of Health:*

DEAR DOCTOR—I am of the opinion that I can say without exaggeration, that the people of this county have been blessed with a fair share of good health during the year ending September 30, 1890.

Epidemic la grippe spread over the county during the months of January and February, and although many of the citizens suffered severely from it, but few, if any, deaths resulted where it was not a complication of some other disease; however its prostrating effect upon the nervous system has undoubtedly developed many cases of tuberculosis, and its track is further marked by nervous diseases, which are quite obscure and difficult to remove by treatment.

There have been received at this office during the past year nine reports of scarlet fever from as many localities, and in most, if not all the

cases, isolation and disinfection were not adopted and enforced until the third and fourth days of the illness, and still there was no spread of the disease, even among the members of the same family, and, according to the reports, none of the physicians know anything of the origin of the contagion, or how their patients contracted the disease, but leave us to conjecture that they sprang up *de novo*.

There was reported during the year one case of diphtheria, and one of cerebro-spinal-meningitis. In both cases isolation and disinfection were used, and we had no spread from either case.

There have been only five cases of typhoid fever reported during the past year, yet I am aware that what is generally called typhoid fever has been, and now is, prevailing in almost every part of our county, especially is this the case during the last three months; but in no case reported does the physician attempt to point out the origin of the fever; but as it occurs in the sparsely settled district quite as often as it does in the more densely populated localities, the question presents itself for our consideration whether the fever is not due to a septic poison, introduced into the system through the medium of drinking water. This idea appears more plausible when we consider that the sources from which drinking water has been obtained during the past summer have been quite low, and as it is mostly obtained from the first sheet of water, it contains many organic impurities.

As to physicians reporting, I am sorry to say that they are not generally as prompt as they should be. Many of them plead as an excuse for their indifference that the State has no just right to demand of them work for which it does not pay. Yet I believe that most cases are reported, though some are eight or nine months later than they should be.

Respectfully,

J. S. ARWINE, M. D.,

Secretary Bartholomew County Board of Health.

BOONE COUNTY.

C. N. Metcalf, M. D., Indianapolis, Ind.:

DEAR DOCTOR—There were no cases of small-pox reported in the past year.

There were no epidemics in the county except of la grippe, which prevailed all over the county the latter part of January and in February and March; in fact, a good deal of the sickness since has been complicated by its effects.

Typhoid fever has prevailed to some extent along the streams, but to take the county over there has been less than usual.

There have been scattered cases of scarlatina, but mostly of the simple type. There have been but few cases of diphtheria and cerebro-spinal fever.

With the exception of typhoid fever and cerebro-spinal fever, the physicians as a rule report promptly and use a reasonable amount of care and caution to stop the spread.

While many are careless about reporting the above exceptions, I believe they use proper care in controlling the spread of those diseases.

Yours respectfully,

D. C. SCULL, M. D.,
Secretary Boone County Health Board.

CLINTON COUNTY.

Dr. C. N. Metcalf, Secretary State Board of Health:

Healthily speaking, Clinton Countians have fared very well during the year ending September 30, 1890. The only epidemic suffered was that of la grippe during the months of January and February. Of this there were over 3,000 cases reported, and these from only sixteen of the three score and more of physicians in the county, notwithstanding blanks were sent to all and a second notice was given by postal after ample time had been allowed to send in reports. Several physicians gave as an excuse that they had kept no record of their cases and could give no information concerning them that would be of any value, while others paid no attention to the reports or notices. The number of deaths reported from this affliction was four, and the number of deaths reported from diseases complicated with la grippe was also four.

Of other contagious and infectious diseases there have been reported since January 1 as follows: Typhoid fever, two; diphtheria, one; measles, twenty; scarlet fever, eighteen.

Some of our physicians are very prompt and faithful about reporting, while others are somewhat negligent, but on the whole there is a general improvement in this direction from year to year. On taking charge of the books last January I sent blank returns to every licensed physician, accompanied by a circular letter, urging all to carry out the legal instructions in regard to reporting. This had a good effect on some who had not been in the habit of reporting before, and I think with the proper effort on the part of the Health Officer our physicians will soon be doing as good work in this department as those of any other county.

There has been only one case of nuisance reported, that being in the guise of a "retired" fish pond in the village of Forest. Notice was given the owner, who promptly caused the pool to be drained and disinfected.

The sanitary condition of our public buildings, including school houses, Orphans' Home, County Asylum and jail, is good.

Yours very respectfully,

S. B. Sims, M. D.,
Secretary.

DAVIESS COUNTY.

C. N. Metcalf, M. D. :

Your favor relative to the sanitary condition of Daviess County for the year ending September 30, 1889, was duly received.

In reply will say that the sanitary condition of the county is exceptionally good. We have had no small-pox.

Typhoid fever.	31 deaths.
Diphtheria	1 death.
Cerebro-spinal meningitis.	5 deaths.

None of the typhoid fever cases were regarded malignant in form, as they occurred in different parts of the county, and am of the opinion that 25 per cent. of the number were of typho-malarial character.

The physicians throughout the county most cheerfully and promptly assisted in reporting cases, and in practicing isolation and disinfection to good purpose. Our Poor Farm is well located and well kept; we have in the last year added a large zinc-lined bath tub. All the inmates are required to bathe at least once a week.

Very respectfully,

DR. W. H. H. STROUSE.

FAYETTE COUNTY.

C. N. Metcalf, M. D., Secretary State Board of Health :

DEAR SIR—The sanitary condition of Fayette County during the fiscal year ending September 30, 1890, has been remarkably good, and our citizens have been vigilant since our epidemic of last year. The sewerage system has been more perfect, and the water supply more carefully looked after. Some of the wells in the infected district have been abandoned, and others cleaned out, graded around, and protected from

surface water and infiltrations of organic matter. Several driven wells have been sunk within the year, which furnish an abundant supply of pure water. Our streets and alleys have been kept clean and better drained than ever before. Our schools have never been in as good a sanitary condition as at the present time. The farming districts are in better sanitary condition than ever before. The farmers are making a better class of improvements as the science of farming advances. Where once stood the log cabin now stands the modern farm house, well lighted, aired and drained; surrounded by handsome, comfortable and roomy out-buildings for stock and crops—thus adding to the value of the stock by better care and protection from storms.

The improvements to highways by drainage, grading and graveling, are all conducive to the health and comfort of the community, whether they are intended as such or not.

The fiscal year ending September 30, 1890, has been one of unprecedented health. It is true that we had the influenza (la grippe) in the winter of 1889 and 1890, which will be handed down in medical history as an epidemic; but it was not due to any local cause, but was general, reaching from ocean to ocean, and spreading from continent to continent, like a chilly wave, casting a gloom of awe over us for a few days, leaving scarcely a trace of its ravages, except a sequæla of some few chronic cases of tuberculosis or rheumatic diathesis.

Aside from the la grippe, and terminating with our typhoid epidemic of the summer of 1889, we have had nothing of an epidemic character, there being but fourteen cases of typhoid fever and five cases of diphtheria reported for the fiscal year, all of which were sporadic, and with the proper hygienic treatment and strict isolation the diseases were held in check and eliminated.

The County Asylum has forty-three inmates, divided as follows:

Males over sixteen years of age	20
Females over sixteen years of age	15
Males under sixteen years of age	3
Females under sixteen years of age	5
Total	43
Idiotic females	2
Idiotic males	2
Insane	1
Deaths during year	5

The Asylum has been well kept by the late Superintendent, E. M. McCready. I found it clean, neat, and well ventilated and disinfected; the inmates are well fed and clothed; well supplied with a good mixed diet of cereals, meats, fruits and vegetables, and appear to be as well

supplied with the comforts of life as the average citizen of the community. The Asylum was established about forty years ago; therefore has not all the modern conveniences it should have, but the old house will be adequate for the needs of the county for several years to come, as, owing to our present high taxes and the failure of crops for two years past, it would prove a heavy burden upon the people to build a new one at present.

We report the following for fiscal year ending September 30, 1890:

Births	200
Deaths	70
Marriages	89

There are quite a number of cases that are not reported, as some physicians are negligent about their reports and others never report at all.

Truly and fraternally yours,

V. H. GREGG,
Secretary.

FULTON COUNTY.

C. N. Metcalf, M. D.:

DEAR SIR—In reply to your letter of September 20, I will state that the sanitary condition of the county for the year ending September 30, 1890, is good. A few cases of typhoid fever, scarlatina and diphtheria. No cause known. During the months of January and February "la grippe" prevailed throughout the county; nearly everybody was sick with it. It was mostly of a mild form, and but very few deaths were indirectly attributed to it among the aged and infirm. At this time Fulton County is enjoying the best of health.

Yours respectfully,

C. F. HARTER, M. D.,
Secretary.

GRANT COUNTY.

C. N. Metcalf, Indianapolis, Ind.:

DEAR DOCTOR—In reply to your letter will say that the sanitary condition of our county is splendid. We have had a few cases of typhoid fever, diphtheria and scarlatina; nothing like an epidemic. No small-pox or cerebro-spinal fever that I have heard of in the county. The physicians in town here report their cases promptly. In the country and villages they do not report at all.

Very respectfully,

J. P. ROSS,
Secretary Grant County Board of Health.

HENDRICKS COUNTY.

C. N. Metcalf, M. D., Indianapolis, Ind. :

DEAR SIR—In response to a letter just read from you asking for the sanitary condition of this, Hendricks County, I will say that for the year ending September 30, 1890, it has been good. As to contagious diseases, scarlet fever is the only one which has prevailed to any great extent (47 cases), the prevalence being due in several instances to the disease being so mild that a physician was not called in time to prevent its spread, but when recognized by physicians the regulations laid down by the State Board have been adhered to.

La Grippe was epidemic in this county from the latter part of December to the first of March, of which I have the reports of 3,461 cases, and of the different types there were: Rheumatic-neuralgic, 756; catarrhal, 1,659; gastro-intestinal, 1,046. Of this number only 26 cases proved fatal, and most of these were suffering from chronic diseases.

Very respectfully,

C. E. FARABEE, M. D.

HENRY COUNTY.

C. N. Metcalf, M. D. :

DEAR DOCTOR—The sanitary condition of Henry County, county asylum and county jail is good.

There has been no epidemics, only of la grippe, which extended all over the county and attacked a majority of the people during January, February and March, 1890. Twelve deaths are reported caused by la grippe, and a number of deaths from respiratory organs and heart diseases, dating from an attack of la grippe, or was complicated with it. Physicians fail to report their typhoid fever cases, claiming as an excuse that former health officers did not require only malignant cases to be reported. There have been twelve deaths reported, caused by typhoid fever, all sporadic cases. Scarlet Fever—While there have been only eighteen cases reported and two or three deaths, no doubt there have been many more cases, but the physicians that attended the cases, or rather a part of them, diagnosed "a simple case of scarlet rash," and did not report their cases. Most all of the cases have been in northern part of the county, and at no time has it been epidemic, and, as a rule, of a mild type. No cases of small-pox. Very few cases of diphtheria, and where occurred did not spread. Where any cases of contagious diseases have been reported, I have at once put in the hands of the

family. "preventable disease circulars," and requested the attending physician to see that the disease did not spread. The health of the county has been good since the la grippe epidemic.

The la grippe has spent its strength and gone, except those that imagine they have a chronic case, or some who have as they think the second or third attack. I give here the following that I have noticed in cases of la grippe: The earlier cases which occurred in my practice lacked the catarrhal symptoms of eyes and nose, also the sneezing, but instead a sore throat and congestion of the tonsils. The leading train of symptoms in the cases I saw: Light chill or chilly sensations, in nine cases out of ten lasting one to three days or longer; fever; temperature 100° to $103\frac{1}{2}^{\circ}$; pulse, 100 to 150 beats per minute; a throbbing frontal headache and a heavy, dull occipital aching extending down the back to the sacrum, and many cases severe during the attack; neuralgic pains through the chest, shifting pains in the thighs, knees, ankles, feet, arms, wrists and fingers; in about 20 per cent. of the cases of children and a few adults there was nausea and vomiting; cough, sneezing and congestion of respiratory mucous membranes, absent in the beginning of the attack, came on by the second or third day; a hard, dry, persistent cough with spinal irritation following in cases where undue exposure before full recovery; all cases were attended with great debility and languor on the subsidence of fever, lasting often several weeks; constipation usually existed; as a rule the urine was unaffected, but in some cases high-colored and scanty while fever lasted.

TREATMENT.—Antipyrine was the remedy to subside the acute pain and fever—tongaline or acetanilide answered well, but not so promptly—followed by syr. hypophosphite with iron, quinine and strychnia soon brought about an early recovery. Sulph. quinine, Dover's powders and spts. fermenti in my hands failed to be of any use in the beginning of the disease.

A. C. BARTLETT.

I have made a great effort to have this county make a full report, but failed, and have asked several to give an article on "La Grippe," but no one responded.

A. C. B.

JASPER COUNTY.

C. N. Metcalf, M. D., *Secretary State Board of Health, Indianapolis, Ind.* :

DEAR DOCTOR—In reply to your circular, received to-day, I will state that the sanitary condition of this county is good. We have had no epidemics, except measles and la grippe.

We were threatened with an epidemic of diphtheria, there being in all fifteen (15) cases, with eight (8) deaths. I wrote you fully about the cases at the time.

The malarial fevers have been prevailing in this county during the months of July and August and some few cases this month, chiefly of the intermittent form, and some few cases of remittent fever.

I have some trouble in getting the physicians to report births and deaths in time for me to get them in the quarterly report.

The County Jail and the County Asylum for the Poor are both in excellent sanitary condition, well ventilated, well heated and clean.

Very respectfully,

VICTOR E. LOUGHRIDGE, M. D.,
Secretary of Jasper County Board of Health.

JAY COUNTY.

C. N. Metcalf, M. D.,

Secretary State Board of Health, Indianapolis, Ind. :

DEAR SIR—In my report of this county I must report some things which are to be regretted very much. The sanitary condition of this county is very good. The epidemic of la grippe in many instances has left its mark on many patients. There are quite a number in this county who are now suffering from its effects. There has been no epidemic of typhoid fever, small-pox, scarlet fever or measles. Two cases of scarlet fever have been reported the last quarter. Both cases were reported at once. The flag was put up immediately, complete quarantine and disinfecting were carried out effectually, and no other cases occurred. One case of scarlet fever occurred in the city, the other in the country. The sanitary condition of the city of Portland is very good, excepting a small lagoon, a receptacle of sewerage from one of our large hotels; and those lagoons, or sinks, will be filled or drained as soon as the law will permit. I think the local board will have the stamina to suppress such nuisances. In the northern part of this county and the southern part of Adams County is situated a chain of small lakes and marshes, which bears the name of Loblolly. It has been a source of malaria for years. But now it has been completely redeemed by a ditch or canal thirty-four feet wide and nine miles long. The dredging began last spring, and since then the health in that locality has improved very much, and now the land is the most productive in the two counties.

In reference to our County Jail I find it clean and well ventilated. Also, the City Prison is in an admirable condition. With regret I report the condition of the County Asylum. I thoroughly inspected it yesterday. The building is an old two-story, wooden building, with

low ceiling, and with no pretension of ventilation. I find thirty-five inmates, twenty-two females and fifteen males. Three are insane and two idiotic. The major part are feeble-minded. The house is kept clean, and very clean, considering the condition of the building and inmates. Two patients are violently insane, and are kept in cells continuously, which are nearly impossible to keep clean. The inmates are well fed and clothed. While the buildings are warmed by wood in box stoves, how those in the cells are to be kept from freezing in the coming winter I am not able to say. There is no odor in the building except from those cells, and that is almost unbearable. The water-closets are at least 300 feet from the well. The water is pure and plenty. Health at the asylum is very good, only two deaths in the year ending. The inmates are kindly used. There is no chance under existing circumstances to better the asylum but to build new, on improved plans, which I hope to see done soon.

I am not a kicker, but to see men practicing medicine under the ten year clause of the law who can not read their own mail makes me very tired. Should we not charge the next Legislature to amend or repeal that clause in the law, and have such men come before an examining board and get rid of such men.

Some of the physicians of this county are very slow in reporting statistics, but when the grand jury again meets they will get a fair reminder of their duty.

H. V. BROWN, M. D.,
County Health Officer, Jay County, Indiana.

KOSCIUSKO COUNTY.

C. N. Metcalf, M. D.,
Secretary State Board of Health, Indianapolis, Ind. :

DEAR SIR—In compliance with your request of the 20th inst., our county, as county, has been comparatively free of epidemics for the past year, excepting la grippe last winter, which was almost universal, few if any escaping it in some form. As a rule, it was not severe, the mortality being very low, considering the number of cases. During the past summer the town of Sidney and near vicinity suffered quite severely from an epidemic of typhoid fever. I received no report from the resident physician. My first information was a letter from a resident of the town, asking for advice, etc. I immediately investigated the matter, and found the town in a fearful sanitary condition, principally from bad privy vaults and poor surface drainage. With the aid of the resident physi-

cian I ascertained the names, and notified the property owners by written notices, and as a rule the instructions were heeded. Since then the health of the place has very much improved.

A little outbreak of diphtheria started at Claypool, eight cases in all, a short time since. It was promptly reported by the attending physician. I visited the town at once. Was unable to ascertain the cause, but instructed the families in regard to isolation and disinfection, per health circular, and the result has been very gratifying. No new cases except two that were attacked the following day.

Our birth and death reports have not been very satisfactory. I send each physician in the county a notice as a reminder at the end of each quarter, and yet too many are very careless, especially in regard to death and contagious disease reports. I can't help believing that it is simply carelessness, owing to business cares, and that they will be more thoughtful from year to year as sanitary science advances.

They have all cheerfully assisted me in all efforts at sanitary improvement that I have deemed expedient, and a pretty general good feeling exists among the physicians all over the county.

Yours truly,

C. R. LONG, M. D.,
Secretary Kosciusko County Board of Health.

LAGRANGE COUNTY.

Dr. C. N. Metcalf, Indianapolis, Ind. :

In answer to your circular letter of October 1, allow me to submit the following :

The sanitary condition of Lagrange County for the year ending September 30, 1890, has been extremely good.

We can get no reliable statistics as to the number of cases of la grippe, as the physicians of the county, with few exceptions, have not felt that they could take the time and trouble to fill out the blanks which were sent for that purpose. Suffice it to say, that la grippe was epidemic in Lagrange County. The cases were mostly of a mild type, none proving serious unless complicated with pneumonia, pleurisy, or bronchitis, and in those who were already suffering from phthisis pulmonalis or heart disease. There were only two or three deaths from la grippe reported. During the year there have been ninety-eight cases of contagious and infectious diseases reported, as follows :

Diphtheria	71
Scarlatina	21
Typhoid fever	5
Measles	1

Sulphuric acid, sulphurous acid copper and lead were the obnoxious substances under suspicion, neither of which was found, even by a trace.

Respectfully submitted,

R. O. CRANDALL,

Secretary Laporte County Board of Health.

February 26, 1890.

REPORT ON VINEGAR FOR QUARTER ENDING JUNE, 1890.

C. N. Metcalf, M. D., *Health Officer of State:*

DEAR SIR—I have collected and examined seventy-three samples of vinegar during the quarter ending June, 1890.

Of these samples thirty-three were so-called cider vinegar, thirty-nine distilled and one colored vinegar, the latter being sold under that name.

On applying the tests six samples were found deficient one-half of one per cent. in acidity.

The parties delinquent having solicited aid in the dilemma, were instructed to percolate this vinegar from barrel to barrel a few times or add one-twentieth in volume of solution one to four of molasses and water, after exposure to atmosphere forty-eight hours, either of which expedients would within ten days bring percentage of acidity up to legal standard. Am I advising adulteration?

One sample of cider vinegar surprised me by forcing all the water out of the jar and escaping from the top of the graduated tube. Taking one-half the quantity of vinegar the water in jar mounted to fifty-eight, upon which data I found the percentage of acidity to be fourteen and one-half. Instructed the addition of at least an equal quantity of soft water. Again, was this adulteration? If so, it was in the interest of the teeth and stomachs of the public.

Six samples of so-called cider vinegar were condemned as fraudulent in name and composition and the parties interested, deceiving and deceived, heartily denounced the wholesaler; would reship forthwith, and seemed happy in the discovery that conscience, in their cases, though buried out of sight and mind, still lived.

The single conspicuous case of vinegar retailed under the name of colored vinegar so dumfounded me with surprise that I failed to inquire whether the wholesaler or retailer introduced the coloring matter. I am now inclined to believe the coloring matter was "cherry bounce," from the tree immortalized by "my little hatchet." If my conjecture is correct, who will venture to denounce it as adulteration? Not I, surely.

The situation and sentiment has improved since my first visitation. Adulterated or colored vinegar has become an abomination. Some re-ship forthwith, and all pledge themselves to abstain from selling it.

All chemical tests, as before, resulted negatively.

Respectfully submitted,

R. O. CRANDALL,
Secretary County Board of Health.

REPORT ON VINEGAR FOR QUARTER ENDING SEPTEMBER 30, 1890.

I have collected and examined seventy specimens of vinegar during the quarter ending September 30, 1890. Four specimens of colored vinegar were found, and five specimens in which the degree of acidity was slightly below the legal standard.

On the whole, the quality of the vinegar being sold is more closely scrutinized than heretofore by the retail dealers, and the sentiment is unanimous in favor of handling only a pure article, which shall fully meet the requirements of the law.

Respectfully submitted,

R. O. CRANDALL,
Secretary County Board of Health.

MADISON COUNTY.

Dr. C. N. Metcalf:

In reply to your request, that the State Board of Health be furnished a statement of the sanitary condition of prison and county asylums of Madison County, etc., I am enabled to say that the prison and charitable institutions have not been visited by contagious or infectious diseases the past year, and can say they are in a very acceptable sanitary condition.

As to prevalence of typhoid fever in the county, I do not think that there has been a typical case reported, neither has there been more than the usual prevalence of the continued form of malarial fever. As to small-pox, not a case; no cerebro-spinal fever; scarlatina, simple, has been the only form, not disposed to spread, and if there has been diphtheria it is of diphtheroid form and not disposed to be infectious.

Yours,

C. N. BRANCH,
Secretary.

MONTGOMERY COUNTY.

C. N. Metcalf, M. D., Indianapolis:

DEAR DOCTOR—I have to report that we have had no epidemic in this county the past year except la grippe, which prevailed very generally during the months of January and February and March, 1890, and, notwithstanding the number affected by this disease, the mortality was small. Typhoid fever has prevailed to a greater extent than for a number of years, and yet it has not been epidemic, but has been usually fatal. We had about ten cases of fever, originating in one of our best hotels, three of which were typhoid fever, and all three fatal, the result of obstructed sewerage. These cases occurred inside of a week, and as soon as the fact was made known the origin of the disease was removed, and there has been no more sickness reported from this hotel. Scarlet fever has prevailed in several localities over the county in a mild form; so also has measles. Since March 30 the health has been good, with less sickness of any kind than usual.

The sanitary condition of the County Asylum is first-class, but we need more cells for the insane female department, and an improvement in the manner of construction of cells.

The Jail and Orphans' Home are in good condition.

Respectfully yours,

E. W. KEEGAN.

 NEWTON COUNTY.

C. N. Metcalf, M. D.:

In reply to your letter dated September 30, 1890, there has been better attention given to the public health laws during the year ending September 30, 1890, than any previous year. Epidemics of contagious diseases have not prevailed to any extent, except la grippe, a report of which I forwarded to you at the time you requested.

The sanitary condition of our county has been good the last year, with the exception of la grippe, which was general all over our county. But few deaths occurred at the time of its prevalence, but it caused many deaths throughout the county by awakening latent diseases, such as tuberculosis and rheumatism, and a few cases of insanity that were caused by la grippe. Our Poor Asylum is in a good, healthy condition. We have no jail in this county. The water is good artesian water worked by a wind pump. We have had no small-pox or cerebro-spinal fever. Had a few cases of typhoid fever and diphtheria, all of sporadic

character. The physicians report such cases and cheerfully assist the local Board of Health in preventing their spread. A few cases of measles were reported, but in no locality was the prevalence of the disease sufficient to be regarded as an epidemic. Isolation has been observed in contagious diseases and disinfection has been fairly practiced.

Respectfully,

J. F. BECKNER, M. D.,
Secretary County Board of Health.

OWEN COUNTY.

C. N. Metcalf, M. D. :

The hygienic condition of Owen County, both private and public, is good and has been greatly improved within the last few years. In fact, ever since the organization of a Health Department in the State the public is gradually becoming educated as to the importance of sanitary work, until now it is very unusual for there to prevail to any extent any contagious or infectious disease in the form of an epidemic within our borders. As a proof of this I am able to state, after careful observation of the reports of the more intelligent and observing physicians of the county and by careful inquiry, that there has not been a case of small-pox, scarlatina or diphtheria, and but few cases of cerebro-spinal fever, within the limits of this county within the last twelve months, and there has been no epidemic of typhoid fever within our borders during that period. There has, however, been quite a number of sporadic cases of typhoid fever in the county during the year just closing, but in no locality has it assumed an epidemic form. The cases have usually terminated in from seven to twenty-eight days in a perfect recovery, and there has scarcely ever been to exceed one case of any gravity in a family or in the same neighborhood at the same time. In almost every one of these cases the origin of the disease was directly traceable to a polluted water supply, and it was through the faithful and persistent efforts of the attending physicians that the disease was prevented from becoming epidemic.

The history of the ravages of that new enemy of the human family, la grippe, has been quite different. It first made its appearance in this community in November, 1889. During the first three months, only a small proportion of the population was affected, but within the next three months, fully four-fifths of the people, of all classes, had become affected.

It approached its victims, as a rule, without warning or premonitory symptoms and prostrated them as unceremoniously as an expert sand-bagger would fell the belated and weary pedestrian. The symptoms are *legion*, and I shall not attempt to describe or enumerate them. After an illness of from three days to three weeks, the more urgent of them usually subsided, but in many cases, especially of the middle-aged and older persons and the infirm, only to return at irregular intervals with more virulence than in the first attack. The course of the disease is as yet in doubt, and the treatment has been as varied as the intelligence and ingenuity of those who have been called upon to treat it are. At this moment the disease is prevailing to a greater extent within our borders than any other one disease, and the death rate is equally as great as at any time since its appearance, thirteen months ago.

WM. V. WILES, M. D.,
Health Officer, Owen County.

PERRY COUNTY.

Hon. C. N. Metcalf, M. D.,

Secretary State Board of Health, Indianapolis, Ind. :

MY DEAR DOCTOR—I have nothing to report as to the sanitary condition of my county different from report of last year, except that we have had no small-pox, scarlatina, diphtheria, cerebro-spinal fever nor typhoid fever as such, but malarial fevers. The la grippe was fully reported to your officers by physicians of the county on blanks furnished them shortly after the epidemic. As we have had no epidemic diseases, can not tell how promptly they would be reported should they invade our midst, but hope they would be without delay, as I should try and make delinquent or neglecting party suffer the penalty for such neglect. Have had no trouble with physicians and people to follow out sanitary requests when properly made.

Yours,

CHARLES M. BRUCKER.

POSEY COUNTY.

Dr. C. N. Metcalf:

The year ending September 30 has not been an unusual one in regard to public health.

There have not been any epidemics of severity.

A mild epidemic of typhoid fever has prevailed, most cases being very mild; very few fatal ones.

There has been very fair observance of the State Board of Health regulations, though the typhoid cases have been better reported than heretofore. The value of the public records becomes more manifest with each succeeding year, and doctors delinquent with death reports are frequently "caught napping" where pension claims are being hunted.

The public institutions are all in first-class shape (Court House, Poor Infirmary, jail, etc.).

Yours truly,

D. C. RAMSEY.

PORTER COUNTY.

C. N. Metcalf, M. D., Indianapolis, Ind. :

In response to your letter of inquiry regarding the sanitary condition and the prevalence of epidemics in the county, would say that we have not been visited by an epidemic of any kind during the last year, save that of la grippe last winter, and from which cause there were very few, if any, deaths. I have no way of ascertaining the exact number of cases, as the most of the cases that presented any peculiar feature, either mild or severe, were diagnosed la grippe. There have been a few sporadic cases of typhoid fever, diphtheria and scarlatina, the last of which were the mildest I ever saw.

The physicians have generally reported very promptly, and have rendered me valuable assistance whenever the opportunity presented.

The County Jail is a stone structure, spacious, well heated and ventilated. The health of the inmates has been remarkably good, not a single case of any kind of fever having occurred among them last year.

The County Asylum is an old wooden structure, and not adequate for the purpose. It was erected regardless of sanitation or convenience, but simply for the purpose of affording shelter for the paupers.

We need a new building, and steps toward its erection can not be taken too soon.

The public school buildings throughout the county are generally sufficiently large, comfortable, and in a sanitary condition.

The city of Valparaiso is as free from public nuisances as any of its size. It is fairly well sewered, the streets are being paved with crushed limestone, and not a pool of stagnant water can be found within or near its limits.

Very truly,

W. A. YOHN, M. D.,
Secretary Porter County Board of Health.

PUTNAM COUNTY.

Dr. C. N. Metcalf, Secretary State Board of Health:

The sanitary condition of this (Putnam) county has been good during the last year. There have been in the last quarter more cases of typhoid fever than usual, but not epidemic. The cases were pretty evenly distributed over the county, and have been attributed to the concentration of the drinking water, caused by the protracted drouth.

La grippe was almost universal, beginning about December 25, 1889, and continuing until about the middle of February, 1890. About 75 per cent. of the cases were rheumato-neuralgic, 20 per cent. catarrhal, and 5 per cent. gastro-intestinal. Complications in order of frequency—pneumonitis pleuritis, rheumatism, otitis and neuralgias. The immediate death rate was small for so severe and general an epidemic; but the remote effects are still felt. Many cases of incipient phthisis were precipitated; hence the deaths from phthisis are increased in number, and in many persons the system was left so debilitated that attacks of the most common diseases assumed a more severe character and were more difficult to control. An attempt was made to collect statistics in regard to it. A copy of a blank report was mailed to each physician in the county; fully one-half did not return them. Those sent were made from memory, and are of no value for statistical purposes.

Yours truly,

G. W. BENCE, M. D.,
Secretary of Putnam County Board of Health.

RANDOLPH COUNTY.

C. N. Metcalf, M. D.:

I have the honor of presenting my yearly report, as Secretary of this Board, for the year ending September 30, 1890.

I take pleasure in stating that Randolph County was never in a better sanitary condition. There has been no serious epidemic this year. There have been a few sporadic cases of diphtheria, scarlet fever and typhoid fever reported from different parts of the county, but no general epidemic has prevailed, and the mortality has been light. Physicians have taken an interest in preventing the spread of contagious and infectious diseases, and reporting diseases dangerous to public health promptly.

Within the year sanitary inspections have been made of the Poor Asylum, County Jail, Orphans' Home and a large number of the school-houses.

The sanitary condition of the Poor Asylum is as nearly perfect as it could well be; the location good, the grounds well drained, the yard is large, and the grounds are kept clean, the buildings are in good repair and well ventilated and heated, the rooms are kept clean, beds are clean and tidy and free from vermin. The water supply is abundant, pure and safe from pollution, the cellars clean and dry. No decaying vegetables found in the cellars. Water-closets in good order, clean and disinfected. There were at the last inspection 33 inmates—16 males and 17 females. All the males that are able to work get plenty of outdoor exercise, and the females help to do the work in the Asylum. The inmates are compelled to keep clean, and the best of order prevails. There were no sick at the last inspection. There are 2 insane—1 male and 1 female; 4 idiots—2 males and 2 females. It is necessary to keep two of these persons in confinement. The insane and idiotic persons are treated well. The average age of the inmates is 50 years, two under 15. Food furnished is of good quality and well prepared. There has been one death during the past year.

The sanitary condition of the county jail was good. The interior of the building was dry, ventilation good. The prison was free from offensive odor and the cells are kept clean by scrubbing, bedding and building kept free from vermin. The food is of good quality and sufficient. At the last inspection there were 9 prisoners, all male, and in general health good.

At the last sanitary inspection of the Orphans' Home the buildings and surroundings were found in a good sanitary condition. The yard clean, out-houses clean and disinfected, beds and bedding clean. I found 17 children, 14 boys and 3 girls; ages running from 3 to 14 years. Fourteen are attending school. They are kept clean and free from vermin. All were well except one little girl who has incontinents of urine and should be treated. They were dressed warm and kept clean. I find that the Board is doing all that is necessary to be done for the comfort of the little ones.

I have visited and made a sanitary survey of the following school houses during the last year and found them in the condition set forth:

White River Township, School No. 3: Room well ventilated, thermometer, 76; grounds high and dry, out-houses in a good sanitary condition. Number of pupils on roll, 26; number vaccinated, 4; number not vaccinated, 22. Mumps was reported in one family. Water procured from an adjoining farm.

White River Township, School No. 10: Room well ventilated, thermometer, 70; grounds and out-houses clean and in good sanitary condition. Number of pupils on roll, 39; number vaccinated, 9; number not vaccinated, 30. No contagious disease in the school. Water procured from an adjoining farm.

White River Township, School No. 1: Room ventilated by letting down windows at top, thermometer, 68; grounds low, water stands on ground in wet weather, drainage not good, out-houses in bad condition. Number of pupils enrolled, 35; number vaccinated, 10; number not vaccinated, 25. No contagious disease in school. Water procured from an adjoining farm.

White River Township, School No. 2: Room well ventilated, thermometer 71, grounds high and dry, out-houses in fair condition. Number of pupils on roll, 34; number vaccinated, 6; number not vaccinated, 28. No contagious disease in school. Water procured from an adjoining farm.

White River Township, School No. 11: Room well ventilated, thermometer 76, grounds and out-houses clean and in good sanitary condition. Number of pupils on roll, 27; number vaccinated, 9; number not vaccinated, 18. No contagious diseases in the school. Well of good water on the ground.

White River Township, School No 15: Room ventilated at windows by letting down at top, thermometer 72, grounds dry and clean, out-houses in good sanitary condition. Number of pupils enrolled, 26; number vaccinated, 5; number not vaccinated, 21. No contagious diseases in school. Water procured from an adjoining farm.

White River Township, School No. 9: Room well ventilated, ground high and dry, out-houses not in a good sanitary condition, owing to the fact that they are used by persons in town and persons attending church, over which the teacher has no control. Number of pupils enrolled, 49; number vaccinated, 11; number not vaccinated, 38. No contagious diseases in school. Water procured in town.

White River Township, School No. 16: Room ventilated with ventilators in wall and by letting windows down at top, ground clean and dry, out-houses in good sanitary condition, no thermometer in room. Number of pupils enrolled, 27; number vaccinated, 7; number not vaccinated, 20. No well on ground. Water procured from adjoining farm.

White River Township, School No. 6: Room well ventilated; ventilations in wall and windows let down at top; ground high and dry; out-houses in a good sanitary condition. Number of pupils enrolled, 30; number vaccinated, 12; number not vaccinated, 18. No contagious disease in school. No well on ground. Water obtained from an adjoining farm.

White River Township, School No. 7: Room well ventilated by windows; thermometer, 76°; ground dry and clean; outhouses in good sanitary condition. Number of pupils enrolled, 40; number vaccinated, 7; number not vaccinated, 33. No contagious diseases in school. Water procured from adjoining farm.

White River Township, School No. 14: Room well ventilated; temperature not taken; thermometer in room; ground low but dry; out-houses in a good sanitary condition. Number of pupils enrolled, 40; number vaccinated, 9; number not vaccinated, 31. No contagious diseases in school. Water procured from an adjoining farm.

West River Township, School No. 2: Room well ventilated; ground dry and clean; out-houses in good sanitary condition; no thermometer in room. Number of pupils enrolled, 26; number vaccinated, 4; number not vaccinated, 22. No contagious diseases in school. Good well of water on ground.

White River Township, School No. 22: Room well ventilated; ventilators in wall and windows let down at top; thermometer, 70°; ground low but dry; out-houses in good sanitary condition. Number of pupils enrolled, 24; number vaccinated, 4; number not vaccinated, 20. No contagious diseases in school. Water procured from adjoining farm.

Greensfork Township, School No. 1: Has no thermometer in rooms; rooms ventilated by windows being let down; brick house and in good repair; ground dry and well drained; good well of water on ground; out-houses in good condition. Have had whooping-cough in school, but are about over, as all the scholars have had it. Number of pupils enrolled, 40; number vaccinated, 20; number not vaccinated, 20.

Ward Township, School No. 9: Room ventilated by letting windows down; ground high and dry; good well of water on lot; out-houses, one in good condition, the other bad; no thermometer in house. Number of pupils enrolled, 37; number vaccinated, 11; number not vaccinated, 26. No contagious diseases in school.

Ward Township, School No. 10: Room ventilated by letting windows down at top; no thermometer in house; out-houses in bad condition; ground well drained; no wash basin or towel in the room. Number of pupils enrolled, 40; number vaccinated, 7; number not vaccinated, 33. No well on ground; water obtained from an adjoining lot. No contagious disease in school.

Wayne Township, School No. —: Room ventilated by letting windows down at top; thermometer in room; temperature 70°; ground high and well drained; good well of water on ground; out-houses in good sanitary condition. Number of pupils enrolled, 34; number vaccinated, 12; number not vaccinated, 22. No contagious disease in school.

Greensfork Township, School No. 10: Room well ventilated; house in bad condition; not in good repair; thermometer in room; temperature, 70°; ground not well drained; no well on ground; out-houses in bad condition. Number of pupils enrolled, 20; number vaccinated, 5; number not vaccinated, 15. No contagious disease in school. Has no wash basin or towel.

Wayne Township, School No. 8: Room well ventilated; thermometer in room; temperature, 70°; ground not well drained, dry at this time; good well of water on ground; out-houses, one in good condition, one bad. Number of pupils enrolled, 50; number vaccinated, 25; number not vaccinated, 25. No wash basin or towel in room. No contagious disease in school.

Greensfork Township, School No. 8: No thermometer in room; temperature about 70°; school-house brick and in good condition; room ventilated by windows; ground well-drained and dry; good well of water on ground; out-houses in good repair and in good sanitary condition. Number of pupils enrolled, 33; number vaccinated, 11; number not vaccinated, 22. No contagious disease in school.

Greensfork Township, School No. 9: Room well ventilated, no thermometer in room, ground high and dry, good well of water on ground, out-houses in a good sanitary condition. No contagious disease in school. High School: Number of pupils enrolled, 48; number vaccinated, 26; number not vaccinated, 22. Primary Department: Number of pupils enrolled, 34; number vaccinated, 4; number not vaccinated, 30.

Greensfork Township, School No. 2: House in good repair, built of brick, ventilation defective, transoms stationary and windows can not be let down at top, no thermometer in rooms, ground high and dry, out-houses in good sanitary condition, good well of water on grounds. High School: Number of pupils enrolled, 35; number vaccinated, 6; number not vaccinated, 24. Primary Department: Number pupils enrolled, 35; number vaccinated, 6; number not vaccinated, 28. Children have had the whooping-cough in each room, but it is about over, as there are no more children to have the disease.

Greensfork Township, School No. 3: House built of brick and wood, building in a very good repair. Room ventilated by letting windows down at top. No thermometer in High School Room; ground can be drained so as to make it dry. Out-houses, one in good condition, the other bad. High School: Number of pupils enrolled, 33; number vaccinated, 24; number not vaccinated, 9. Primary department: Number of pupils enrolled, 17; number vaccinated, 11; number not vaccinated, 6. No contagious disease in either department. Good well of water on grounds.

The sanitary survey of the school-houses reveals the fact that but a small per cent. of the children have been vaccinated. It is a well demonstrated fact that vaccination is the only sure preventive of small-pox, and every person being the parent or guardian, or having the care and custody or control of any minor or other individual, shall (to the extent of any means, power and authority of said parent, guardian or other persons, that could properly be used or exerted for such purpose) cause and procure such minor or individual to be promptly and effectually vac-

cinated. No teacher should be allowed to teach without first being effectually vaccinated, if they have not been. Small-pox, one of the most contagious diseases, is almost a disease of the past, and the only way to prevent its appearance and spread is vaccination.

Whooping-cough was found in a few schools, and every pupil had been exposed before it was known that it was whooping-cough, and the schools were allowed to continue without preventing any from going.

Number of marriages for the months reported :

October, 23 whites, 1 colored ; November, 31 whites, 1 colored ; December, 32 whites, 1 colored ; January, 26 whites ; February, 23 whites ; March, 27 whites ; April, 17 whites ; May, 9 whites ; June, 23 whites ; July, 17 whites ; August, 25 whites, 1 colored ; September, 12 whites, 2 colored. Whole number, 265 whites, 6 colored.

Number of births for the months reported :

October, 95—males, 43 ; females, 52. November, 63—males, 30 ; females, 33. December, 71—males, 45 ; females, 26. January, 50—males, 24 ; females, 26. February, 52—males, 26 ; females, 26. March, 61—males, 35 ; females, 26. April, 42—males, 20 ; females, 22. May, 42—males, 22 ; females, 20. June, 52—males, 25 ; females, 27. July, 64—males, 31 ; females, 33. August, 54—males, 32 ; females, 22. September, 40—males, 23 ; females, 17. Whole number, 686—males, 356 ; females, 330.

Number of contagious and infectious diseases reported :

October—typhoid fever, 4 ; diphtheria, 7. November—typhoid fever, 2 ; diphtheria, 1. December—typhoid fever, 1 ; diphtherial cerebro-spinal meningitis, 1 ; measles, 1 ; whooping-cough, 1. January—diphtheria, 7 ; measles, 7 ; whooping-cough, 8. February—diphtheria, 1 ; measles, 1 ; whooping-cough, 6. March—scarlet fever, 5 ; typhoid fever, 6 ; measles, 1 ; whooping-cough, 7. April—measles, 27. May—diphtheria, 1 ; scarlet fever, 2 ; measles, 41 ; whooping-cough, 2. June—measles, 6 ; whooping-cough, 1 ; cerebro-spinal meningitis, 1. July—scarlet fever, 1 ; whooping-cough, 4. August—scarlet fever, 4. September—scarlet fever, 4 ; typhoid fever, 4 ; diphtheria, 2 ; measles, 2 ; whooping-cough, 2.

Whole number of contagious and infectious diseases reported :

Typhoid fever, 17 ; diphtheria, 20 ; cerebro-spinal meningitis, 2 ; measles, 86 ; scarlet fever, 16 ; whooping-cough, 31.

Number of deaths from contagious and infectious diseases :

Cerebro-spinal meningitis, 2 ; diphtheria, 2 ; whooping-cough, 2.

Number of deaths and the cause of each for the months reported :

Asthenia, 1 male, under 1 ; acute bronchitis, 1 male, from 70 to 80 ; aortic insufficiency, 1 male, from 20 to 30 ; apoplexy, 6—4 males, 2 females, ages 20 to 30, 30 to 40, 2 from 50 to 60, 60 to 70, 70 to 80 ; aortic stenosis, 1 male, from 20 to 30 ; asphyxia, 1 male, under 1 ; anemia,

3 females, 15 to 20, 30 to 40, 50 to 60; abortion, 1 female, from 20 to 30; atelectasis pulmonica, 1 female, under 1.

Bright's disease, 4—2 males, 2 females, ages 40 to 50, 50 to 60, 80 to 90; bronchitis capillary, 2 females, under 1; burned, 1 female, from 70 to 80; bilious fever, 1 male; cholera infantum, 18—11 males, 8 females, aged 12 under 1, 6 from 1 to 5.

Cancer uterus, 3 females, ages 30 to 40, 40 to 50 and 70 to 80; cancer throat, 1 male, from 40 to 50; consumption 6—2 males, 4 females, ages 10 to 15, 20 to 30, 3 from 30 to 40, 60 to 70; chronic dysentery, 1 male, from 1 to 5; congestion of lungs, 4 females, ages 1 under 1, 3 from 70 to 80; cerebro-spinal meningitis, 2 males, under 1.

Catarrhal fever, 2 females, 15 to 20, 20 to 30; cancer of womb, 1 female, from 40 to 50; cerebral meningitis, 2—1 male, 1 female, ages 1 to 5 and 10 to 15; catarrhal gastritis, 1 male, from 70 to 80; cancer of breast, 3—1 male, 2 females, ages 1 to 5, 50 to 60, 70 to 80; croup, 1 male, under 1.

Convulsions, 1 female, under 1; cancer, 1 female, from 50 to 60; cyanosis, 3—2 males, 1 female, 2 under 1, 30 to 40; cancer of stomach, 1 male from 50 to 60; cholera morbus, 1 male from 50 to 60; diabetes mellitus, 3—2 males, 1 female, ages 30 to 40, 70 to 80, 50 to 60; diphtheria, 2—1 male, 1 female, 1 to 5.

Diphtheritic croup, 1 male, 1 to 5; dropsy, 1 male, 30 to 40; dysentery, 5—2 males, 3 females, ages under 1, 1 to 5, 5 to 10, 50 to 60, 70 to 80; enteritis, 2—1 male, 1 female, under 1, 70 to 80; exhaustion, 2 females, 40 to 50, 80 to 90.

Embolism in heart, 1 male, under 1; enterocolitis, 3—2 males, 1 female, ages under 1, 5 to 10, 50 to 60; epilepsy, 1 male, from 50 to 60; erysipelas, 1 female, under 1; fatty degeneration of heart, 1 male, 30 to 40.

Gastric catarrh, 1 male, 50 to 60; gastritis, 1 male, 60 to 70; gastro-enterocolitis, 1 male, 1 to 5; general debility, 1 male, 90 to 100; hypertrophy of heart, 1 female, 40 to 50; hemorrhage of lungs, 2 males, 30 to 40, 40 to 50; hyperemia of brain, 1 male, 40 to 50; heart disease, 1 female, 40 to 50; hydrocephalus, 2 males, under 1; heart failure 6—4 males, 2 females—ages, 2 from 50 to 60, 60 to 70, 70 to 10, 80 to 90; intercolitis, 1 male, under 1; influenza, 6—1 male, 5 females, ages 40 to 50, 70 to 80, 3 from 80 to 90, 90 to 100; inflammatory rheumatism, 1 male, age from 40 to 50; inanition, 3—2 males, 1 female under 1, 80 to 90; inflammation of stomach and liver, 1 male, age from 60 to 70; inflammation of brain, 2 males, under 1; internal injury by accident, 1 male, 15 to 20; insanity, 1 female, from 40 to 50; inflammation of bowels, 1 female, 80 to 90; lobular pneumonitis, 1 female, 50 to 60; la grippe, 3 males, 30 to 40, 40 to 50, 70 to 80; marasmus, 2—1 male, 1 female, under 1; measles, 1 male, from 10 to 15; nervous prostration,

1 male, 70 to 80; disease not given, 3—2 males, 1 female, ages under 1, 20 to 30, 50 to 60; organic disease of heart, 1 male, 50 to 60; old age, 4—2 males, 2 females, 80 to 90; osteo myelitis, 1 male, 40 to 50; obstruction of bowels, 3—1 male, two females, ages 2 under 1, 70 to 80; pneumonia, 12—7 males, 5 females, ages, 4 under 1, 5 to 10, 2 from 10 to 15, 40 to 50, 50 to 60, 60 to 70, 70 to 80, 80 to 90; pericarditis, 2—1 male, 1 female, 20 to 30, 70 to 80; puerperal fever, 2 females, 20 to 30, 30 to 40; phthisis, 5—2 males, 3 females, ages 10 to 15, 50 to 60, 30 to 40; not reported, 2; paralysis of heart, 1 male, 50 to 60; paralysis 3—2 males, 1 female, 40 to 50, 70 to 80, 80 to 90; phthisis pulmonalis, 2—1 male, 1 female, ages 30 to 40, 40 to 50.

Premature birth, 1 male; rheumatism of heart, 1 male, 60 to 70; rupture of bladder, 1 male, 60 to 70; senile debility, 4—1 male, 3 females, ages 2 from 70 to 80, 2 from 80 to 90; softening of brain, 1 female, 1 to 5; spinal disease, 1 female, under 1.

Summer diarrhea, 3—2 males, 1 female, ages under 1, 1 to 5; stomach inflammation, 1 female, 50 to 60; sunstroke, 1 male, 60 to 70; spinal meningitis, 1 female, 1 to 5; scalded, 1 female, 5 to 10; shot, 1 male, 20 to 30; typhoid fever, 7—5 males, 2 females, age 5 to 10, 15 to 20, 20 to 30, 30 to 40, 60 to 70, 70 to 80; tubercular meningitis, 2 males, under 1, 5 to 10; trismus nascentium 1 male, 30 to 40; tubercolitis, 2—1 male, 1 female, 40 to 50, 50 to 60.

Ulcer gastric, 1 female, 50 to 60; weak heart action, 1 male, 60 to 70; uræmic poison, 1 male, 50 to 60; uræmic hemorrhage, 2—2 females, 10 to 15, 90 to 100; uræmia, 4—2 males, 2 females, ages 20 to 30, 30 to 40, 60 to 70, 70 to 80.

Valvular insufficiency, 1 male, 40 to 50; whooping-cough, 2 males, under 1, 1 to 5; yellow atrophy of liver, 1 male, 40 to 50.

Whole number of deaths for the months reported, 222; males, 124; females, 98; number under 1, 51; number over 80, 21.

The causes of death are the same as reported to me. I have no right to change the reports. Physicians should learn that dropsy is a symptom of a disease and not a disease; that weak heart generally follows or is characteristic of any fatal disease.

Forty-five copies of the reports for 1889 of the State Board of Health have been received and distributed. The number received was not more than half enough to supply the physicians.

All of which is respectfully submitted.

J. E. MARKLE, M. D.,
Health Officer Randolph County.

RIPLEY COUNTY.

Dr. C. N. Metcalf, Secretary State Board of Health:

In reply to your circular letter of September 20, 1890, I have the honor to say that the sanitary condition of Ripley County has been good during the last year. The epidemic of la grippe, although involving many in its wicked grasp, disappeared without doing much damage to the public health.

The cases of typhoid fever and diphtheria were sporadic and occurred chiefly in the northern part of county.

The sanitary condition of the County Infirmary is good, and the new jail which the County Commissioners have decided to build during the coming year will no doubt correct the hygienic errors of the present structure.

Yours sincerely,

JOHN M. ROBINSON,
Secretary Ripley County Board of Health.

SULLIVAN COUNTY.

C. N. Metcalf:

DEAR DOCTOR—Our county is in a good condition sanitarily. We have had no epidemic of typhoid fever, small-pox, scarlatina, diphtheria or cerebro-spinal fever, but had one of la grippe at beginning of year, concerning which I wrote you. Our doctors do not report promptly. We are not getting full returns of deaths and births.

Yours respectfully,

JOSEPH FREEMAN, M. D.

SWITZERLAND COUNTY.

C. N. Metcalf, M. D., Secretary State Board of Health:

MY DEAR SIR—In answer to your circular letter of September 20, 1890, I will say that the sanitary status of this (Switzerland) county is excellent, and has been so for the year ending September 30, 1890. For the number of deaths caused by typhoid fever, small-pox, scarlatina, diphtheria, cerebro-spinal fever, la grippe, etc., I shall have to refer you to my regular quarterly reports. I will only say that there

has been no epidemic of any disease in this county in the past twelve months, excepting, of course, la grippe. I think that a reference to the quarterly reports from Switzerland County will show a very small death rate, especially from zymotic diseases. It is possible that a comparison of the death rate for the past few years with that for former years would reveal a steady decrease, with better sanitary conditions prevailing. And as the farmers here are putting more of their land in grass and breaking less than formerly, there may be found a causative relation existing between the two conditions. Further, the physicians of this county are intelligent and faithful in the full performance of their professional duties. The few sporadic cases of typhoid, typhomalarial, scarlet and other fevers have been well guarded. All cases of contagious diseases have been immediately and efficiently isolated, all of which each physician of his or her own volition takes especial pride in doing instantaneously, even before reporting the existence of the trouble. I would I could stop here and end with commendations, but my duty in the premises compels me to add that although many of the doctors are prompt in reporting births, deaths, etc., there are still a few that fail to make any reports whatever—and allow me to suggest that aside from the question of unconstitutionality of the law compelling us to make such reports (and there is such a question), there is a deeper question of *Is it right* to compel a man to do something for nothing? Why not allow each M. D. a certain stipulated sum, however small, for each report, and then see to it that such reports are made.

I have just heard, unofficially, that at this time there are a few cases of diphtheria in the vicinity of Markland, Switzerland County, there having been two deaths, and the school closed for the time.

Very truly yours,

GEO. WELBY VAN PELT,
Secretary Board of Health.

TIPPECANOE COUNTY.

C. N. Metcalf, M. D., Indianapolis, Ind. :

The sanitary condition of Tippecanoe County for the past year, ending September 30, 1890, has been very good indeed. The land, where it is low, has been well drained, leaving very few ponds or pools. There has been extensive improvement in the sewerage system of the city of Lafayette in the past year or two, and there seems to be general improvement in health thereby.

The Orphans' Home, County Jail and Asylum are in good sanitary condition, the asylum recently having an addition to it by which the insane patients are enabled to receive gymnastic exercise, also to roam about in open air in a large enclosed lot, instead of being confined in their cells year in and year out.

As to disease, there has been some malaria, but very few fatal cases from it; same of typhoid fever. There has been no cases of small-pox, and none of cerebral spinal fever reported. Of scarlet fever, diphtheria, measles, vancella and whooping cough we have had very few cases. These seem to originate by contagion, and are well isolated. La grippe came in the form of an epidemic, attacking a large majority of the inhabitants with more or less severity. There were no deaths reported from it directly, yet there were from its sequence or its aggravation of chronic troubles. The disease left a great many persons with weak lungs, weak physical condition, and, in cases of consumption, aggravated the disease. La grippe had its greatest prevalence during the months of January, February and March, 1890. Within the last few months there have been quite a number of cases of continued fever reported, which fail to yield to any of the malarial specifics, except for the first few days, and to all intents are a modified form of la grippe, and are treated as such by the physicians.

The physicians are generally prompt in reporting cases according to law.

Very truly yours,

G. K. THROCKMORTON,
Secretary.

UNION COUNTY.

C. N. Metcalf, M. D. :

The sanitary condition of our county (Union) is first-class. We have had no epidemic this year except la grippe. Had but one case of scarlatina, and that was very closely quarantined and not allowed to spread any. Physicians have learned to see the benefits of co-operating with the Health Officer in stamping out contagious and infectious diseases, and very promptly report same.

E. C. THOMPSON,
Secretary Board Health Union County.

VERMILLION COUNTY.

C. N. Metcalf, M. D., Indianapolis, Ind. :

DEAR DOCTOR—As regards the sanitary condition of this (Vermillion) county for the year ending September 30, I will say it has been uniformly good. While there has been quite a number of cases of typhoid fever in the county the latter part of this summer, it has not been in such form as could be called epidemic. The same is true with regard to the others mentioned in your circular.

The la grippe was epidemic, a report of which I have sent you.

There are three physicians in this county who do not report their births and deaths to this office—Dr. White and Dr. Nebeker, of Clinton, and Dr. Keyes, of Dana. If you can do anything to make them do it, I will be glad to have you do it. I have exhausted my resources on them.

I believe there is nothing further to report.

Yours truly,

M. L. HALL,
Secretary Board of Health.

VIGO COUNTY.

C. N. Metcalf, M. D. :

DEAR SIR—I am glad to be able to say that Vigo County, with the single exception of la grippe, was not burdened with anything like an epidemic.

La grippe, during the months of January, February and March, was exceedingly heavy, but so far as I know deaths attributed directly to it were not reported. Of course many died from other causes during the epidemic that would otherwise not have done so. Since March we have had now and then a case called la grippe; may its shadow grow less.

So far as it has come to my notice there has not been a case of small-pox in the county.

Scarlet fever has been a very scarce visitor, only a few cases having been reported, with but two deaths. The cases were sporadic and mild in type.

There was not to exceed a dozen cases of diphtheria reported, and I am certain all were promptly reported that occurred, at least where physicians attended them. There were seven cases of cerebro-spinal fever reported, with four deaths.

Typhoid fever and the so-called malarial-typhoid were more prevalent, but deaths were very few and the cases well scattered.

In fact, so far as I can learn, with the exception of la grippe, the other contagious diseases did not assume either a malignant type nor an epidemic form.

I am pleased to state that our county, for the year ending September 30, 1890, was in an excellent sanitary condition, and the physicians, together with the local Boards of Health, ever ready to assist the County Health Officer in the discharge of his duty.

I am convinced that in a few more years, by vigilance and the continuance of the means now adopted, all our contagious diseases can be controlled so as to limit them to the very place of the beginning.

There was no other means used, so far as I know, to stamp out any of the above mentioned diseases, excepting to put out the display flag of warning and to isolate the sick from the well.

Whenever it was known, or as soon as found out, children exposed to the disease were scrupulously prevented from going to school or mingling with others.

I have nothing to add, dear doctor, except to urge upon you to spur up the M. D.'s to do their duty under the law, as it now stands, and all will be well.

Very respectfully,

LEO J. WEINSTEIN, M. D.,
Health Officer Vigo County.

WARRICK COUNTY.

C. N. Metcalf, M. D., Secretary State Board of Health, Indianapolis:

The general health of Warrick County, for the year ending September 30, has been good. We have not been visited by an epidemic of any kind during the year, except la grippe, which affected about eight-tenths of the people of the county. Measles and whooping-cough were reported sporadically only.

The physicians of the county, with a few exceptions, send in reports promptly.

Our county asylum is receiving repairs, of which it greatly stood in need, but is now being put in a fair condition.

The county jail is in a fairly good condition the greater portion of the year there has been only one inmate. There is in this county an Orphans' Home, which is in first-class condition, having been thoroughly renovated during the summer. There are 22 children in the Home at present, there has been no severe sickness, and no deaths during the present management, which has now continued nearly four years. Everything from cellar to garret is neat and clean, and the management is as near perfect as is possible.

Yours respectfully,

D. W. TUCKER, M. D., *Secretary.*

WAYNE COUNTY.

Dr. C. N. Metcalf, Secretary, etc., Indianapolis, Ind. :

Wayne County is now clear of all epidemic disease, and the general health is above the average. During the year but one general disease has visited the inhabitants, to-wit: Epidemic influenza, which began in the county in December, 1889, and ceased as an epidemic in February, 1890. Large numbers of people were afflicted with the disease, but the fatality was small, almost nothing.

Typhoid fever has prevailed to about the average extent, 45 cases being reported, but these are probably but a moiety of the whole number, it being an impossibility under present arrangements to obtain full reports,

Of scarlet fever, 5 cases reported; diphtheria, 39 cases, and one case of cerebro-spinal fever. Small-pox, none.

As this report is made before the municipal reports for September have reached this office, the number of cases reported may not correspond with the number for the whole year.

Dysentery has prevailed over the county to some extent, but the number of cases did not approach that of last year, and it has been unusually amenable to treatment. No other disease of interest has visited the county during the year.

Physicians have not been faithful in reporting, as the regulations require, but perhaps not more remiss than in other years.

Respectfully submitted,

JAS. F. HIBBERD, M. D.,
Secretary Wayne County Board of Health.

WHITE COUNTY.

C. N. Metcalf, M. D. :

The citizens of White County are taking much interest in its sanitary condition and are quick to report anything which they deem detrimental to public health.

Our county went through the same conflict with the la grippe as did many of our neighbors, but with less fatality than many of them. Directly or indirectly perhaps a dozen deaths were caused by the above-named disease, and its effects are still felt by many.

August and September several cases of diphtheria were reported, and some cases proved fatal, but most of it was confined to one or two families in certain neighborhoods. In each instance all possible precaution

was used with each house, and many of the neighbors' houses disinfect. We can give no especial reason, as parents claim no chances for contagion.

Several cases of typhoid fever have been reported from the west part of the county, caused, we think, by the unwholesome water.

The removal of a slaughter-house which had become a nuisance gave us some trouble, but was finally settled without litigation.

The public buildings are in similar condition as reported last year. A letter from our Prosecuting Attorney awakened one of our non-reporting physicians to his duty, and most of them report now, yet not so promptly as we like. We believe a bill similar to the one before the last Legislature regarding reports from physicians should be passed.

Respectfully submitted,

ROBISON AND McCANN;
Secretaries Board of Health, White County, Indiana.

WHITLEY COUNTY.

C. N. Metcalf, M. D., Secretary State Board of Health:

DEAR DOCTOR—In compliance with your request I respectfully submit a brief account of the sanitary condition of Whitley County for the year ending September 30, 1890. The general health has been very good. The contagious diseases prevailing were so few in number and so mild in character that there were only a few deaths attributed to them. There were only a few cases of typhoid fever reported; only one in Columbia City, a laborer, who came here with the disease from a neighboring county, but has recovered. There are only a few cases in the county.

In December last a lady, with her two children, came to Columbia City from a neighboring city, and the day after their arrival one was taken sick with scarlet fever, and in ten days the other child was taken sick with the disease. Both recovered, but from that time we had a few cases reported every month. Nearly all the cases occurred in Columbia City; only three of the cases occurred in Larwill, about six miles west of here.

In January 3 cases were reported; in February, 3; in March, 4; in April, 6; in May, 11; in June, 3; in July, 2; in August, 1; in September, 2—35 in all.

At present there are a few cases in one family one mile from here. Our physicians did all they could to prevent the disease from spreading. They were vigilant and unusually successful in the treatment of their cases, as only two deaths were reported from scarlet fever. Flags were

promptly put up at the infected houses, isolation urged and disinfection practiced. A great deal of credit is due the Columbia City Board of Health and the physicians of the city for their earnest and faithful efforts to control the disease.

There were only two cases of diphtheria reported, one in Larwill and one in Columbia City.

La grippe was so prevalent that but few of our people escaped, and the disease was very mild in the great majority of cases; indeed, a great many cases were observed which did not require any treatment, and only a few deaths were attributed to this disease.

We have twenty-six physicians in the county, and of this number there are only one or two who do not comply with the law in reporting births and deaths.

The sanitary condition of our County Asylum is very good. The Superintendent and his wife are doing all they can for the good and comfort of the inmates. The physician is very attentive, and the health of the inmates as good as could be expected in that class of people. Our County Jail is also in good sanitary condition; it is neat and clean throughout and has only a few prisoners. Our school houses are mostly of brick, of modern architecture, on high grounds and in good sanitary condition. We have a very good class of teachers, and a County Superintendent who is entirely consecrated to his work and receives much praise for his enthusiasm and the results of his labor. Our Commissioners take quite an interest in sanitary matters, and a great deal of praise is due our newspapers for the influence which they have in stimulating reforms.

From September 30, 1889, to September 30, 1890, there were three hundred and one (301) births reported, one hundred and forty-two (142) males and one hundred and fifty-nine (159) females. Of this number fourteen (14) children were stillborn, and there were three (3) pairs of twins. There were one hundred and seven (107) deaths reported, fifty-nine (59) males and forty-eight (48) females. Forty-eight (48) were married and forty-six (46) were single, ten (10) widowers and nine (9) widows. There were one hundred and seventy-nine (179) marriages reported.

Now, while the interest manifested by our physicians, health officers and the press, as well as many other citizens in sanitary matters is in the highest degree praiseworthy, there remains much to be done and it is to be hoped that all will take an unselfish and still deeper interest in this commendable work.

WILLIAM WEBER, M. D.,
Secretary Whitley County Board of Health.

HYPNOTISM.

W. B. CLARKE, M. D., INDIANAPOLIS, IND.

When merely for sport or pastime people are thrown into syncope or catalepsy by persons entirely ignorant of physiology and the laws of life; when a glance of the eye, or the shimmer of a coin, or a mere "suggestion" is shown to act as powerfully as the strongest drug, it is high time for those who know something beyond mere empiricism to discern and apply both mental and moral hygiene.—[J. D. Buck, M. D., Cincinnati, 1890, Presidential address.

Apropos, regarding the peculiar possibilities hinted at in the above testimony from such high authority mentally and professionally, it may now be not out of place to make a brief study of Hypnotism, that most mysterious agitator of the scientific world, more particularly as to its history, rationale, power and remedial value in their connection with the medical profession.

Hypnotism may be said to be a mode of action upon the nerves through the medium of the senses—the induction of a peculiar psychical condition in a person which increases his susceptibility to suggestions made to him by another person, and it includes all the phenomena that lie in the nervous system in its relation to the mind or soul and the body, and touches the relation between soul and the senses. There is yet much of mystery connected with it, and of all the many explanatory theories that have been advanced I fear that none are wholly satisfactory. We know that hypnotism shows us that there is a relation between the consciousness and the senses which can be thrown out of gear, and that the hypnotic has in him a twisted or perverted relation between sense and the soul; but what that perverted, twisted and abnormal relation is we do not know. "The human mind remains the greatest of all mysteries. We have learned much about it, but there is still far more to be learned. Its manifestations are constantly producing new surprises. Within given limits, we are able to comprehend its nature and its functions, but those limits are comparatively narrow, and when we get outside of them our boasted wisdom is useless, and we are only as infants in point of analyzing and understanding power." The human imagination is a powerful worker of miracles. Yet, as Bernheim, a chief exponent of the science of hypnotism, says, "Certain minds have a horror of the marvelous. They are right. But they are wrong when they consider as marvelous and systematically deny facts which they have not verified, just because those facts do not agree with the *a priori* conceptions in

their minds. The facts are undeniable; if their interpretation is faulty do not blame the facts, but the present insufficiency of our knowledge of psychology and nervous physiology."

"Mesmerism," "magnetism," or "Braidism" used to be the names of the science, for science it is, but the favorite name now is "hypnotic suggestion," this being the others ennobled and improved, as applied for healing purposes. As has been said, "magnetism is dead, together with alchemy, and hypnotic suggestion is born of magnetism, as chemistry is born of alchemy." This system of "suggestive therapeutics" is being used quite largely in a remedial way in European institutions, notably the French hospitals, and in the amelioration or cure of some desperate conditions. Liebault, at Nancy, (the great perfecter of Braidism) has practiced it nearly thirty years, and has hypnotized many thousand persons, and the great Parisian Salpetriere Hospital specialist Charcot makes large use of it. But these and Bernheim (the chief modern author on the subject) are only the noted leaders of a small army of skilled manipulators, though it must be admitted and regretted that we of the United States are comparatively uneducated and deficient in the art.

Leaving out of consideration the fact that East Indian priests practiced the art for centuries, even their noted magicians performing their occult tricks by its aid, it is enough here to say that mesmerism was given to the world in the historic year 1776, by the Frenchman, Anthony Mesmer, his theory referring all phenomena of life to a magnetic fluid universally diffused, which fluid is influenced by external agents, especially by certain individuals peculiarly or pre-eminently endowed with magnetic power. The interesting history of its rise to the year 1841 can not be given here, for want of time. In that year Dr James Braid, of Manchester, England, scientifically demonstrated the system, and proved that no magnetic fluid exists, and that no mysterious force emanates from the operator. Therefore, he changed the name to hypnotism (from the Greek word *hypnos*, meaning sleep), though for many years it was called Braidism in his honor. He said that the hypnotic state and its associated phenomena are purely subjective in their origin, which is in the nervous system of the subject himself. The fixation of the eye on a brilliant object so that the muscle which holds up the upper eyelid becomes fatigued, and the concentration of the attention on a single idea, bring about the sleep. In this state the imagination becomes so lively that every idea spontaneously developed or suggested by a person to whom the subject gives this peculiar attention and confidence has the value of an actual representation for him. No one who wills not to be affected can be hypnotized, but once under control can at any subsequent time be put under control, and the oftener the easier, for such is the law of association and habit; and in the light of this ex-

planation we can easily understand the influence of some of the old-time priests in secular and healing matters, as well as religious, and, coming nearer home, have a closer insight into the causes of the famous Salem witchcraft trials. The fact that the condition of the mind called ecstasy often renders the body insensible to pain was well known to the executioners of the Christian martyrs. On this Dr. Charpignon wrote in 1864: "Among the martyrs of Christianity many escaped pain through the ecstasy which came from the ardor of their faith, a phenomenon well known to their executioners, who increased their fury and improved their inventions for punishment," and it was sometimes observed during the Inquisition, just as we yet see in the ecstatic trances and frenzy of prophets and of oriental dervishes and devotees at shrines, where mutilations are borne unflinchingly.

A hypnotizer can totally paralyze a subject, a leg, an arm, or the tongue, sew all his fingers together without pain, the "victim" an amused spectator the while, or, with profounder effect, put one through a long and serious surgical operation without pain; make him say that salt is sugar, that ammonia is cologne, and *vice versa*, that a lead pencil is a cigar, that everything seen is of one color, make a rheumatic old woman go through a series of girlish antics and pranks; in fact, make him or her do anything, even steal or attempt murder, and sometimes can even affect functions of organic life never under the subject's will, with startling effect upon superstitious beholders. Nor is it necessary that the subjects be nervous or hysterical persons, for they are often of the most intelligent class, with calm imagination and well-balanced mind.

It can from this readily be seen that conscientious and painstaking physicians who possess such unlimited power over certain patients can frequently wield it for good in their efforts toward restoration to health. And this is not because it has any supernatural power, or lessens or increases faith in the physician or in the Great Healer of disease, but because there are certain diseases proceeding from the nervous system, which in some mysterious way can best be controlled, temporarily at least, by hypnotism. Why its employment and development in this country should be almost exclusively relegated to the numerous broods of faith healers, magnetic healers, Christian scientists, etc., and to a certain extent the Spiritualists, as their principal stock in trade, is a mystery almost as dense as the thing itself.

As Drs. Chamblin and Edmonds, of St. Louis, say: "Spirit investigations are beset with many difficulties. It is not amenable to the ordinary modes of physical investigation by mensuration, touch, sight, chemical reagents or weight. We are circumscribed to the narrow compass of careful observation and a record of such facts as we may be able to establish, together with a perfectly mutual good faith between concurrent observers, caution and good faith being most essential where doubt

and obscurity furnish such large opportunities to the crank and the knave. Physicians should feel a special interest in any well-established facts touching spirit force in view of our dynamic theory as to the causation, cure and prevention of disease. Indeed, the doctrine of spirit force and activity in matter is at the very foundation of a rational pathological and therapeutic system."

A question of importance regarding hypnotism is now being considerably discussed, namely, its legal regulation. Recognizing the probable necessity for such action in the near future, I, on December 2, 1889, published the following in the *Indianapolis News*:

"It is the belief of the most experienced operators that hypnotism is not in itself dangerous to those submitted to it; that, well managed, it does not produce the slightest harm, physical or mental, recent or remote, unless the subjects fall into the wrong hands in the first place, when grievous results may easily follow. And in this view of the existing facts—and no one can successfully deny that the phenomena of hypnotism are facts—it can readily be seen that they open up a new study for legislators, lawyers and physicians, *i. e.*, the medico-legal aspects of the practice of hypnotism, and the careful legal regulation of the same."

You all remember the prominence given this phase of our subject on account of the now famous "Eyraud, the Strangler," murder case in Paris, December, 1890, and which attracted the attention of the scientific and legal world, as in it a self-confessed murderess, Gabrielle Bompard, took shelter behind the plea that she was not legally responsible, for the reason that her part in the tragedy was performed while she was in the hypnotic or mesmeric state, induced by Eyraud, this being the first time that plea had been made in a court. It would have been a great public calamity for this hypnotic plea to have proved successful, as then we would have a repetition of all the old Salem witchcraft history, the evil eye and the enhancement of the Voodoo power, so that the courts would be filled with the new line of work, and convictions for any crime would be well-nigh impossible. Far better was it for the French court to allow Gabrielle to become a martyr, a victim of the master of her fate, (granted that her story was true, which it was not) than to allow the awful results of an opposite course to obtain—just as it became necessary to execute the crazy Guiteau in Washington in order to quell the gigantic wave of crank ebullitions about to break over this country had he been acquitted of the Garfield murder. Lawyers will remember that the first plea of "emotional insanity" was made in 1851 by that great master, Wm. H. Seward, and that this marked the dawn of a new era in criminal defense. But the two pleas, "emotional insanity" and "I was mesmerized," are not and can not be identical in law, since the former is, if genuine, unavoidable, while the latter is avoidable, for no one can be hypnotized, in the first place, against his or her will; nor does

the fact that a person is hypnotized prove that he or she is a weak-minded person, or that the hypnotizer is a person of strong or overpowering will.

There seems no doubt that some legal restriction must be put around the practice of hypnotism, but what shall it be, and how shall it be? The Cincinnati health officer last January, to quote from the *Enquirer*, "has instructed the authorities to refuse a license to a lecturer on hypnotism, and his entertainments have been stopped on the ground that it affects the mental health of the subject" when used this way. There is a typical case of unwarranted and arrogant assumption and usurpation, especially considering that Prof. Carpenter, the interdicted, is the most skillful and careful hypnotizer this side the Atlantic, with twenty-five years' experience, who spends his winters at Washington instructing the Nation's law-makers, and who trained about all the leading physicians (or their instructors) of this country in all that they know of the art in a practical way.

Our own Marion County Medical Association (old school) quite recently adopted the following resolution:

"That we recognize in hypnotic suggestion an additional aid to our therapeutics, which is often applicable and efficacious in relieving and curing certain cases of disease; that we are opposed to its use by any one other than properly qualified physicians, and that public exhibitions of this character should be discouraged as productive of no good and tending to demoralize the subjects and the public."

This is also refreshing, since mesmerism is of lay origin, the worst kind of a "quack" origin," and its putter-forward was persecuted and reviled personally, and his work pronounced a lie, a deception and a cheat by the medical profession. Until quite recently all the demonstrators of the system were outside the medical fold, and were kept there, and to this day all over this country few reputable physicians of considerable practice would like to have it leak out that they understood or are dabbling in hypnotism. To say that no one not a doctor shall be allowed to publicly exhibit the phenomena of hypnotism is, it seems to me, going too far, as it stands to reason that a professional mesmerist, who devotes his whole time to the study of this class of phenomena, is more capable than ordinary physicians, who are only dabbling in it through curiosity or for amusement. To choke out the hypnotic professionals is to deprive the profession and the public of the benefits of vast experience and a chance to learn. If restriction is made, it would seem wiser to confine its public practice to persons proved to be suitable, and who can show to the licensing power that their aims are legitimate, educational and proper.

In conclusion, Bernheim, the great French alienist and operator at Nancy, lays down three rules for the guidance of operators: (1) Consent of subject. (2) Presence of a third party as a witness. (3) No

suggestions other than those necessary for the cure of the patient, and concludes: Suggestion is only beneficial when used prudently and intelligently for a therapeutic end. It is a physician's part to separate the useful from the harmful effect, and to apply it to the relief of his patients. In cases where I believe that suggestive therapeutics has some chance of success, I should deem myself reprehensible as a physician did I not propose it to my patient, and did I not urge him to decide to submit himself to it.

COW'S MILK FOR INFANT FOOD.

BY E. F. BRUSH, M. D., MOUNT VERNON, N. Y.

In India, several years ago, one of the Hindoo Kings, "in order to atone for his cruelties, caused a colossal golden cow to be made, through the body of which he passed with profound reverence and made it the era from which all his edicts were dated."* This historical fact is significant. We have practiced all manner of cruelties with the luckless infant deprived of its mother's breast; we have presented all manner of unfit substances to this small animal whose only language is a cry, whose only desire is food. In fact, whenever a commercial enterprise finds itself burdened with some waste product that can not be put to other use, it has been deemed a good substitute for mother's milk, and straightway the market is stocked with another "Baby's Food," and physicians ready to recommend it and plenty of babies ready for martyrdom. Now, how can the physicians of the nineteenth century better atone for all their cruelties toward the human young than by causing a better cow to be reared, and from henceforth base all their edicts on the artificial feeding of infants on this better cow with a better milk product? I think that with few exceptions we are all agreed now that nothing excels good pure milk from good healthy cows for the artificial nourishment of infants, and if the great body of physicians put themselves about it with anything like the same energy they have displayed in supporting substitutes, they can so reform the breeding of dairy cattle and the handling of their milk that the suffering of the human young will be ameliorated to a far greater degree than was ever hoped for by the astute chemist who started out years ago to make not only a substitute

*India and the Hindoos. F. DeW. Ward, 1850, page 34.

for cow's milk, but also for that of the human mother.* It is this idea of a substitute that has led us away from the more important consideration of improving what nature has already presented to us. Just look at the improvement in the commercial line that the middlemen have made in their milk transactions. These men have reduced the purchasing of milk to a nicety hardly surpassed by the purchasers of gold and diamonds; they have worked down the price of milk from the producer to the lowest possible point; they have dropped fluid measurement and adopted weight as being more accurate; in butter factories they have invented an oil test that will indicate in a very short space of time the exact amount of butter a given quantity of milk will yield, and on this test the price of the milk is regulated; likewise the cheese factories have established a standard of solids in milk which also regulates the price. But all the improvements these men have made do not help us, notwithstanding the fact that our chemists, sanitarians, health authorities have followed in the wake of these men and endeavored to make us believe that the healthfulness of milk is dependent upon the total solids, fats, etc., that relate solely to its commercial value. A larger percentage of fat that is easily removed from milk does not improve it for our purpose; it matters very little to us whether a given quantity of milk contains 12 or 14 per cent. of solids.

In milk for infant feeding we should consider first the variety of fats, the manner in which they are emulsified and combined; second, the amount of albuminoids and their condition; third, the amount and variety of salts; fourth, the health of the animals from which it is derived, and the food that has been consumed to produce the milk, and fifth, the changes which the milk has gone through before it reaches the infant's stomach. When we come to understand all these conditions we shall readily perceive just what kind of milk we want, and exactly the kind of cow, which with a given variety of food, will produce the very best substitute for the infant in lieu of its own maternal breast.

Let us then first consider the fats. Taking the human milk, which should always be our standard, we find these solids according to the best authoritative analysis occur in proportions of 2.11 to 6.89.† Now this makes an average of 4.131, for human milk. From several hundred analyses of cow's milk in different parts of France, England and America, the average of the chemist is 3.91. Thus you will see the difference, according to the chemist, between the two varieties of milk is very

* "Now, I have come to the most important matter of the lecture, and that is the consideration of the proposition at one time sincerely made of substituting some other food for human milk as being a better food for infants."—Abstract of a lecture before the New York Academy of Sciences, by Prof. Albert R. Leeds, Ph.D., of the Stevens Institute of Technology, "Sanitarium," May 24, 1883, page 325.

† Composition and Methods of Analysis of Human Milk by Prof. Albert R. Leeds. Transactions of the College of Physicians of Philadelphia. Third series, Vol. VIII, p. 248.

slight. I know, however, from the actual experience of practical dairymen that cow's milk contains more fat than is indicated by the above figures. The lowest amount of butter obtained from mixed milks is one pound of butter from 25 pounds of milk. This would make the fat percentage 4. In drawing this deduction I am well aware that a pound of butter is not a pound of fat, but a pound of butter obtained from a given quantity of milk represents a pound of fat in that milk, because the quantity of fat in a pound of butter is exactly 84 per cent., and according to the latest experiments at agricultural stations only 84 per cent. of the fat can be obtained from the milk by the process of butter-making. Now this percentage of 4 is a low practical estimate of the quantity of fat, for among dairymen with special breeding and feeding they get as high as one pound of butter from 14 pounds of milk, that is 7.13 per cent. This is a higher percentage than has been found by any chemist in human milk. This is a practical fact, not chemical inference. It is very easy to understand where the fault in chemistry has been. The fat in milk is dependent upon the food the animal receives more than are the albuminoids, and we all know that very many of the varieties of fat contained in cow's feed are volatile, and the chemical methods of using heat dissipate these varieties of fat; hence the low percentage obtained by chemists.

We must all admit that the fats contained in human milk, the product of an omnivorous, largely carnivorous animal, consuming fixed and more stable fats, differ from those contained in the milk of the cow, a herbivorous animal whose food holds more vegetable, volatile and unstable fats. Practically one is a yellow, unctuous, pleasantly odorous fat, as we see in butter, the other is colorless, waxy, decidedly different in odor, and therefore it can be easily understood that the chemist who is obliged to use heat will recover more fat from the human than the cows' milk. Thus we see that the fat is largely dependent on the nature of the food, and from the dairyman we learn that we can regulate the food of the cow so as to materially affect the proportion of fat secreted. We know very little about the chemistry of fats; as far as I have been able to ascertain there has been but one analysis of cow butter fat made up to the year 1875. Wherever we turn the analysis of Bromeis confronts us, and later English analysts, while finding this analysis all wrong, are unable to give us a correct one. These later analysts,* without ascertaining the proportions, found in butter palmitin, palmitic acid, stearin, stearic acid, olein, oleic acid, butyrin, butyric acid, caproic acid, caprylic acid and capric acid. The fat of human milk has also been analyzed by Robin several years ago and also copiously quoted. I think that it is due to us from the chemists that we have some authoritative analysis of these milk fats, that we may know

*Hahner and Angell. *Butter: Its Analysis and Adulterations*. London. 1877.

which if any of the fatty acids are the mischief-makers in milk, for I have no doubt that the glycerides and fatty acids from the decomposition of milk have more to do with the development of poisons than the albuminoids have. The present popular method of analyzing milk by heat undoubtedly decomposes the fats, as is evidenced by the skin that forms on the surface of boiling or evaporating milk. This skin is undoubtedly the oxide of lipyl; it was at one time considered that it was coagulated albumen, but it does not form in vacuo, and will continually form on the surface of boiling or evaporating milk as often as you remove it, and resembles very much the skin which forms on old paint pots that have contained vegetable oil. Furthermore the condensation of milk for commercial purposes does not preserve the fats; hence condensed milks are more or less skimmed, the better varieties having only the more volatile fats removed, otherwise they would become rancid. I am coming more and more to consider that the fats in milk are the bodies most likely to cause the digestive derangements of infancy, and when we know more of the composition and combinations of those bodies occurring in milk, many of the poisons, notably tyrotoxinon, will be less of a mystery than they are now.

Our second consideration will be directed to the albuminoids. Some time ago there arose a mild dispute between two chemists as to the amount of the albuminoids occurring in human milk; Professor Meiggs asserting that there was only 1 per cent., while Professor Leeds makes the variation of from 0.85 to 4.86, an average of 1.195. Koenig, an earlier analyst, make the variation from 0.57 to 4.25. Some of these results give as high a percentage of albuminoids in woman's milk as we find in cow's milk, and I have no doubt in my own mind that the time and habit of extracting the milk has a deal to do with the amount of occurring albuminoids. In other words, when milk is extracted every two hours or less, it can not contain as much of the cell material as milk from the same source extracted at intervals of twelve hours. This latter is riper and it is the non-uniformity of the tissue which causes all the difference in the different occurring albuminoids. We know that during the incubation of eggs casein is developed from egg albumen. This illustrates the ripening of albumen. Furthermore, take an egg just laid by the hen and boil it, and you will find immature albumen in it, that is, after boiling, instead of being thick and firm, like an older egg, much of it is milky. If boiled a few hours later, all the albumen will coagulate perfectly, because it has had time to ripen. There is no doubt that the albuminoids in milk from healthy animals are all cell transformations, not an exudate, as are undoubtedly the fats and salts, because these latter we can influence by the food very plainly, but in health the albuminoids are constant without regard to the food, while during menstruation, pregnancy and other conditions, notably febrile disturbances, we

find the fats and salts not materially affected, but the albuminoids are decreased, increased, or totally changed, as we find in colostrum. The casein, besides being riper in cows' milk, by reason of its stronger growth, is intended by nature to coagulate into a hard mass, because it is the product of a cud-chewer for the nourishment of a cud-chewer, and the reason why it does not always coagulate in the infant's stomach as it does in that of the calf, is that the latter animal's stomach secretes a principle called chymosin; this is the principle that curdles cows' milk, and it operates either in an acid or an alkaline medium. Pepsin will not coagulate milk, and hence the hard coagulum of cows' milk that sometimes forms in the infant's stomach is due to acidity of that organ, and this acidity is not always the fault of the stomach, but of the milk itself. The variations in the chemistry of the albuminoids found in cows' milk would not be surprising to any one if he would examine into the condition of some of its mammary sources, for often it will be found on dissecting a cow's udder, which I always do when making an autopsy on a cow, that there are old cicatrices, one or more quarters of the udder intensely inflamed, sometimes a mammiiferous duct clogged with a calculus or a clot of fibrin, and besides these pathological conditions, the mammary gland is subject to benign and malign infiltrations, bacillary tubercular deposits and eruptive diseases of the skin involving the gland and ducts; therefore, that fibrin, serum, albumen in various forms, are found in the cow's milk is not surprising, and it can safely be assumed that any variation in the albuminoids from the normal casein can be ascribed to sickness on the part of the animal.

We next come to the salts contained in milk, and it is remarkable how few analyses have been made to determine the salts or minerals that are contained in this fluid. Heidlin's analysis, copied everywhere, seems to be the only exhaustive one of the salines in cow's milk made during the present century. It seems to me in this case, too, that it is time for the chemist to teach us something more. There probably never was a time in our era, at least, when milk was attracting so much attention as now, and still all our chemists are content with the total solids, fats, albuminoids and sugar—just what the butter and cheese-makers want to know. From this much-quoted analysis of cow's milk salts we learn that milk contains in varying proportions the phosphates of lime, magnesia and iron, the chlorides of potassium, sodium and iron and free soda. Robin gets from human milk, in addition to the foregoing, carbonate of lime and soda, phosphate of soda and the sulphate of soda and potash. We have no means of knowing how constant is the occurrence of any of these salts in milk or under what conditions they are modified; we do know, however, from the experiments of Fehling, that many of the drugs administered to the milking female are excreted in the milk. Therefore we can safely assume that the saline constituents occurring in milk

are influenced both by the health and food of the animal. That the phosphates are craved for by the milking cow is evidenced by their habit of chewing old bones and the like, and that there is a lack of this element of food is not to be wondered at when we see herds of milking cows pastured on old worn-out lands; the practical farmer knows that exhausted pasture lands need more than anything else for their rejuvenescence the phosphates, and we know that in our nutrition we need them also. The land on which a cow is pastured will indicate pretty fairly what we may expect to find in her milk as salts. We have all noticed the excessive growth of sorrel on exhausted land, and can it then be a subject of wonder that some kind of a vegetable acid should be found in the milk of animals that are obliged to include this variety of food in their summer rations and sour ensilage or spoiled brewery grains in their winter feed. Theodore Hankel's discovery of citric acid in cow's milk to the amount of 0.9 and 1.1 grammes per litre is just what might be expected.

Sugar, I think, in milk has always been over-estimated as to its nutritive value, because we know that carnivorous animals do not secrete sugar to any appreciable extent, at least so the chemists tell us, and when we see a small slut nursing seven or eight puppies and keeping them all fat and in a thriving condition, we can easily imagine that sugar is not one of the necessary elements of food; while on the other hand we know that the gross result of condensed milk feeding where the sugar is in excess is not good. In regard to using the commercial sugar of milk as an addition to cow's milk for infant feeding, I think it is a mistake, as there are undoubtedly all the other crystalizable milk salts with the milk sugar, and consequently we can know very imperfectly what we are feeding an infant with when we are giving milk sugar. If the milk from which the sugar was crystalized contained improper vegetable salts, those would undoubtedly become crystalized with the sugar, and many of the proper salts would have become changed to the lactates. Therefore, I think if sugar is to be used at all, although I deem it of doubtful necessity, the pure cane sugar is undoubtedly the best, because you know just what it is. When we consider the chemistry of milk as we find it in the books, what does it all amount to? The chemist has given us to understand that the needs for bodily nourishment are a certain amount of the albuminoids, carbohydrates, fats and salts. We can, therefore, from some of the cheap cereals make this ideal food, and for one cent have as much in nutritive value as we get in milk at a cost twenty or thirty times greater. Then, why do we give milk? Because we have tried the chemist's ideal food with the infants at least, and however admirable the theory may be, in practice it is a failure. Nature does not make so close an allowance that there is nothing to spare and no margin. She does not measure food by the rule of three always ex-

actly in the same proportions. Let us examine the work of the chemists themselves, and we find in human milk a standard that we can not ignore, the albuminoids varying from 0.85 to 4.86. Therefore, let us not deceive ourselves with the popular error of the day, namely: That milk must contain just such a proportion of solids, and solids not fat, and so forth, to a chemical nicety, but let us look into the cow-house and see what goes through the cow to produce the food for infants and what kind of an animal she herself is. Prof. L. B. Arnold, as good an authority as we have in this country on dairy matters, says: "Milk is the scavenger of the cow's body." What would be the sense of taking a sample of water from a sewer and asking a chemist to examine it for sewage, and so when we go into a dairy stable and see dirt and filth, disease and improper food, need we ask the chemist to ascertain the total solids, fats, etc., to find if the milk is fit for infant food? When this fluid will not properly nourish an infant it is not cow's milk, *per se*, that is at fault, but it is either a pathological condition of the cow or improper food or care or the conditions through which the milk has passed on its way from the cow to the infant. It is safe to say that if we had directed the same attention to the cow, and if the same amount of money that has been spent on the various substitutes had been devoted to the improving of her condition, the infant, at least, would be better off.

Now we can assert that cow's milk is the best food for the artificial feeding of infants, and when this fails the fault lies in one or other of the following conditions, or several of them combined: First, a faulty condition of the cow herself, and this will be indicated by the condition of the albuminoids; second, improper food or an improper manner of feeding and caring for the animal, and this will be indicated by the fats and salts; third, improper handling of the milk after it is taken from the cow, and this will be indicated by the ptomaines and extractives. A proper understanding of these three sources of danger will make the feeding of infants a simpler matter than that offered by any of the substitutes, and be at the same time a more rational method. We shall consider the conditions of the animal that render her milk unfit for food. The cow is a unique beast, differing in many respects from any of our other domestic animals. One of her peculiarities that has caused a great deal of confusion among veterinary writers is her normal temperature. Several years ago I searched diligently in books devoted to bovine pathology to find the normal bodily heat of the cow, and the confusion was puzzling. It is variously stated at from 98 to 101 F. I myself made several hundred thermometrical examinations under varying conditions, and found that the temperature is not constant in apparent health, as it is within very narrow limits in the human subject. Of course we can not tell to a certainty how near to health a dumb creature is. The standard we have to adopt with these animals is that they are

in health when they perform their functions with profit to their owners. Certainly there are many slight ailments that do not carry the animal beyond this limit. Therefore the varying temperature in the cow may be due to slight ailments that do not demand the attention of the veterinarian. The average temperature of the cow in apparent health I have found to be $102\frac{1}{2}$ F, ranging from $101\frac{1}{2}$ to 103. This you will perceive is a peculiarity of the cow, and none of the other large domesticated animals maintain so high a bodily temperature. Another peculiarity of the cow is the constant employment of her generative functions. She is always milking or pregnant, and both the uterus and the mammary glands are employed almost constantly at the same time. Hence her nervous functions are exaggerated. Therefore with an abnormally high temperature, for I have found that bulls and steers have not so high a temperature as the milking cow, and with an unnatural functional activity of the organs of generation, she is used also as a machine to transform food into milk, and it is astonishing to what capacity she has been trained in this direction. With four stomachs, the first alone with a capacity of sixty gallons, she simply eats, and she will eat anything; in health she is always either eating or chewing her cud, and her pedigree sometimes shows the closest consanguinity in her breeding. Now, when we consider all these unusual conditions is it at all to be wondered at that the ordinary dairy cow is as a rule an unhealthy animal, more prone to bacillary phthisis and scrofulous affections than other animals? Her nervous system is more subject to severe shocks, and in fact she is a delicate creature, her attendants are not usually either mild or cleanly, nor is her housing always the best.

Our next consideration is the feeding and care of this nervous and delicate animal. The ordinary dairyman receives for his milk $1\frac{1}{2}$ to $2\frac{1}{2}$ cents per quart. At this low price received by the producer he can not usually give his cattle the best food. I noticed in a dairy journal this summer an estimate from the New York Dairy Commissioner. Taking the milk received at the creameries as a basis, the average income from each cow is about \$20 a year to the producer. This is almost seven cents a day, from which the dairyman has to buy food and pay for labor. This sum alone would not begin to pay for proper food for the animal, hence the farmer is driven to every known expedient to keep his cows in milk, and the profits being so small, if there is any profit at all, he must utilize every drop of milk, whether the animal giving it be sick or well. In this state of affairs is it not natural that all the cheap foods, such as brewery grains, distillery slops, the refuse from starch factories enter so largely into the food from which our babies' supply of milk is produced. Of course this condition of low price and improper feeding does not apply to every dairy, but after years of experience I have no hesitation in saying that it applies to the

great majority of dairy farms, surrounding New York City at least. I have personally inspected small dairies where the sole article of diet was swill gathered in the city. Good food is to the cows of course the prime absolute essential for the production of good milk, and unless the public are willing to pay more for their milk than they do at present a reform in this direction can not be expected.

The handling of milk after it leaves the cow is the next important consideration. Owing to the cow's natural high temperature, 102 to 103 F., the milk when drawn must cool rapidly, and this first cooling taking place in a cow-house, the milk is of course more or less affected by the conditions generating odors. If these odors are not very bad they can be removed more or less perfectly from the milk by a process of aeration. This can be accomplished readily by pouring the milk from one vessel to another in a thin stream in the presence of a pure atmosphere, or on a larger scale by pumping pure air into it by a suitable machine. One of the most dangerous methods that I know of for killing the odors that milk absorbs from dirty stables or improper food is that recommended by many practical and otherwise sensible men, namely, the addition of nitrate of potash, that is, common saltpetre. It is very easy from this addition of nitre, combined with the glycerides and sulphates already contained in milk that is decomposing, to figure out chemically bodies approximating to nitro-glycerine. It is suggestively strange that the toxic effects of nitro-glycerine are similar to those of tyrotoxicon. The often-reported detonation of this latter extractive while undergoing examination in the laboratory is also suggestive of the properties of nitro-glycerine. The addition of chloride of lime, which is also recommended for the same purpose, although apparently a less dangerous chemical compound, should nevertheless be prohibited. Soda is also added to milk sometimes to delay the souring process. The prohibition of this chemical may be viewed in the light of a stultification, when we consider the large amount of bicarbonate of soda that is used at the present day in one of the popular methods of feeding infants. I think it is no less reprehensible on the part of the physician than it is on the part of the dairyman. No chemical substance whatever should be added to cow's milk by the dairyman. Milk that is procurable too far away to reach the child within a few hours should not be used for infant feeding. The different degrees of temperature through which it must pass in its transit by country wagon, railroad train and city express are productive of changes that can not but deteriorate the quality of the milk. It is well known that light as well as heat is one of the elements that hasten decomposition in milk, hence the now popular method of serving milk in clear glass bottles is also a popular error. No milk should be served by the milkman for infant feeding after it is twelve hours old, nor should it be served to the infant while it is warm, imme-

diately after leaving the cow, for I have found by actual experiment that cow's milk while still retaining the animal heat if taken into the stomach, would coagulate into a solid mass, but this coagulation was not so hard and rubbery as the curd we see sometimes formed when milk is too old. In regard to sterilized milk, I am of the opinion that it is far better for us to make an effort to improve the quality of milk to such an extent that it will be needless to sterilize it, because, of course, sterilized milk must take its place with condensed milk and other varieties of preserved food. If we can not improve our milk, then, of course, sterilization ought always to be practiced. Notwithstanding that it is a preserved food like condensed milk, it is not necessarily skimmed or sweetened as the latter is.

Having thus outlined the condition of the milk we get and the reasons why it is not always good, let me in the next place suggest remedies for the existing evils. First, in regard to the cow herself. No cow that is bred for a butter-maker should ever be used to furnish milk for infant feeding. The ideal butter cow is too closely inbred, and consequently too nervous; there is too much free fat in her milk. The ideal cow to furnish milk for our purpose should not be too finely bred, and with little if any consanguinity in her breeding. She should not have had her first calf till she was in her third year; her milk should not be used after she is six years old unless she has been spayed; she should be of a quiet disposition; her surroundings clean and quiet; she should be stall-fed always while giving milk for infants; her food should be hay without weeds, ground oats, bran, flaxseed meal, roots (beets and carrots), bone-meal and salt; in the winter cornmeal in addition, and in summer, in lieu of dry hay, green cut clover or grasses free of weeds. She should be curried every day and well bedded, and in the winter the water she drinks should be slightly warmed. The milk should be aerated and cooled as quickly as possible. It should then be put into opaque bottles and securely closed.

Now, why do we not have this kind of cow and obtain this quality of milk from our milk-man? The very first and prime reason is that milk is sold altogether too cheap. The producer, as I have before mentioned, gets about two cents a quart. The railroad or carrier gets one cent a quart for all handled, and the distributor gets five cents a quart for peddling to the customers. Therefore, the consumer pays eight cents. This variety of milk does not usually agree with the child, and therefore the consumer is advised to buy some of the baby foods as an addition to the milk, and this increases the price of the food to something like fifteen to twenty cents a quart. Now if the producer got this extra amount of money he could buy better food and better cows, exclude the milk of sick animals, and altogether improve the quality of his produce. But would he do it? That is the question. Still it would be

more humane to make him do it when he is making a living than under circumstances as they exist now. So the question of a purer supply rests largely with the medical adviser. Instead of recommending commercial baby foods in addition to doubtful milk, he should advise the parents to purchase milk at twelve or fifteen cents a quart, and when the infant gets sick from digestive troubles, then lay the blame where it is justly due, to the milk-man, and he will lose his customer. The supply of baby milk in cities should be kept entirely distinct, and should be procured from those farms that are situated near enough to the customer to get the morning's milk of the day of delivery. The dairies supplying this variety of milk should be under strict sanitary surveillance, for no matter how good a condition a cow may be in if she is in heat, has sustained an injury or is sick in any manner whatever, her milk should not be used for infant feeding until she has completely recovered. The ideal dairy for supplying infant food should be composed entirely of spayed cows, and thus one constant source of nervous functional disturbance would be eliminated. In my own herd I have several spayed cows whose milk I supply for infant feeding. These animals are much more quiet in disposition, they give a more constant and uniform supply of milk, and seem to enjoy a more even degree of health than the cow who is occasionally bulling and becoming pregnant when giving milk.

CONSUMPTION—WHAT CAN THE LEGISLATURE DO TO PREVENT IT?

BY C. A. KORBLY, ATTORNEY AT LAW.

[Paper read before the Joint Committee on Public Health of the Indiana Legislature February 4, 1891.]

The discoveries of the real nature of many diseases and their causes by Pasteur Koch, and other scientists have been followed up by laborious and protracted studies and experiments to find a cure for them. The whole civilized world is at present on the alert to watch the experiments of Koch with his lymph—an animal poison (ptomaine), applied by him on the principle that "the hair of the dog is good for the bite." The world will, most likely, be disappointed in the result of the experiments, because it expects too much. But this does not, and will not detract from the fame of Koch and his great forerunner and pathfinder Pasteur, to whom all honor is due.

Koch's great discovery was the *nature* and *cause* of consumption, that terrible scourge of mankind. This was a development rather than a discovery.

After the close of the Franco-Prussian war, Pasteur, already famous for his achievements in overcoming the silk-worm disease, undertook the study of fermentation with a view of improving the art of brewing. This study he prosecuted for six years without intermission with a determination of perfecting it. In the preface to his great work (*Sur La Biere*), dated June 1, 1876, he tells us that these new studies were based on the same principles which guided him in his researches on wine, vinegar and the silk-worm disease—"principles, the application of which are practically unlimited, and that the etiology of diseases may, perhaps, receive from them an unexpected light." In the third chapter of this work, he sets out a letter from Joseph Lister, dated February 10, 1874, in which this distinguished Scotch surgeon offered Pasteur "his most hearty thanks for having demonstrated by his researches the truth of the theory of putrefactive germs, and for having offered to the former in this manner the sole means of perfecting the antiseptic system."

Yet notwithstanding this high encomium and his great achievements, so prudent and cautious was Pasteur, that he wrote in connection with this letter, that "It is a matter of regret to us, however, that the facts which we have established should have been accredited with any importance beyond that which is their due. The exaggeration of novel ideas invariably leads to a reaction, which again overshooting the mark, brings into disrepute even those points in which such ideas are perfectly just or at all events worthy of serious consideration." (*Studies on Fermentation*, Eng. Tr. by Faulkner and Robb, London, Macmillan & Co., 1879, p. 41.)

It must be remembered that these words were penned over sixteen years ago. They gave the impulse to that perseverance, patience and sacrifice necessary to prosecute those studies upon the causes and nature of diseases in man and beast, which he, Tyndall, Koch and other brilliant scientists have shown, and which have almost placed victory within their grasp. These studies have solved the mystery of many diseases. They have been in reality the study of life. But notwithstanding the profundity of the studies and the flood of light that true science shed upon the subject, the more profound the mystery of life became. It was proved that life was not spontaneously generated. It was laboriously traced down into the "infinitely little" things—little plants—which teem in the air, the water and the soil of this world. These patient students have identified, classified and named many of these little bodies, which, when viewed in the field of a good microscope look like short bits of thread, beads, oval cells or little sticks, hence the

high sounding Greek derivative names, *bacteria*, *bacilli*, *micro-cocci*, *microbe* and like, which have been given them. The term *microbe* is the most general one and includes them all. There is an immense variety of them, and there is a vast unexplored field for their study. The greater number of the microbes is harmless; indeed, many of them are positively beneficial to mankind, notably the *saccharomyces cerevisiæ*, which makes our fragrant ale, and the ferments which ripen and flavor our cheeses. But a sufficient number of them is noxious and harmful to human life, causing diseases and death. Among this number is the one that causes consumption.

It was Koch who discovered and proved that the spittle of consumptives—those having *phthisis pulmonalis*—is filled with multitudes of little rod-like living organisms, which grow and multiply like weeds in the summer fields. He named them *bacilli tuberculosis*. He proved they were the cause of consumption. His lymph is a proof of it. The *bacilli are alive*. They grow like plants. Everything that is alive and grows does so at the expense of soil or food. This bacillus feeds on something. That thing fed upon is thereby changed in its nature. In *phthisis pulmonalis* the lungs afford the soil and the food for the *bacilli*.

Observe the track of the borer-worm through an oak plank. It is filled with the dust of the wood on which the worm has fed. The yeast *o rule* feeding upon the wort in the fermenting tun or must of the wine vat, turn its sugars into alcohol and carbonic acid. The lactic ferment feeding upon the sweet milk turns it first into sour milk and then into clabber. It would be just as scientific to say that the alcohol of the wine or the beer makes the yeast plant, as to say as some do, that the *bacilli tuberculosis* are the product of the tubercles or are caused by the disease. The structural alteration of the lungs and the deposits are the product of the growth of the microbe in the lungs, just as surely as the *bug-dust* in the wood is caused by the worm, or the clabber by the lactic ferment in the sweet milk. But Koch has cultivated the *bacilli tuberculosis* in the so-called culture tubes into the tenth and remoter generations, and the remote descendants of the original microbes have caused consumption in rabbits and guinea-pigs with as much certainty as the fresh virus. He has demonstrated that these germs retain their vitality a long time after they have been dried and mixed with the dust of the streets, or deposited on the walls, floors, carpets, beds and clothing of consumptives. In other words, he has demonstrated, scientifically, what was well known empirically before, that consumption is *highly contagious*. This is admitted by the *doctors* and writers for the magazines, who deny that the disease is caused by the *bacillus tuberculosis*. They do not deny the existence of this microbe, but allege it is but the carrier of the contagion or the product of the disease; as though disease could produce life. But what concerns us practically is the fact that the disease is

contagious, that its contagion may be carried in infected food and milk, in clothing, carpets, bedding, on the walls of houses, upholstered furniture and in the dust on the streets. This is enough for the Legislature, the Board of Health, the sanitary engineer. This brings us to the question, "What can the Legislature do to save the people from consumption?"

If it be considered not too presumptuous for a layman to offer advice on a subject, where one of the learned professions has been exceedingly jealous, we would suggest that much can be done in this direction:

First. Extend the powers and enlarge the means of the State Board of Health. Give it a voice in the appointment of local Boards of Health.

Second. Re-organize local Boards of Health and put them on a permanent and efficient footing.

Third. Establish a biological station at one of our State hospitals or schools for the study of bacteriology, preventive medicine and sanitary engineering.

Fourth. Define the contagious diseases by law. Provide the means for public disinfection by super-heated steam. Forbid the sale of the effects of those dying of contagious diseases, without thorough disinfection by the proper health officers; and make it their duty to see to this precaution. In cases where disinfection is not possible let the property be burned after appraisement and payment of assessed value.

Fifth. Appropriate sufficient money to carry out these requirements; and offer a reward for the discovery of the home and native soil of the *bacillus tuberculosis*, with a view of destroying it, root and branch.

Sixth. Authorize the State Board of Health to make and enforce rules against the spread of contagious diseases, and regulating as far as may be the deposit of the excreta and sputa of the diseased upon the streets, alleys and public places of cities and towns.

Seventh. Provide for a thorough and efficient inspection of all meat and dairy products, to prevent the communication of *tuberculosis* to man by the flesh and milk of diseased animals. It is no longer a matter of doubt that beeves and other animals have consumption (*tuberculosis*), much more frequently than is generally known; and that it is very difficult to detect the presence of the disease in the living animal. That the disease may be communicated to mankind by the use of the milk or flesh of tuberculous animals. See papers in Eighth Annual Report of Indiana St. Bd. of Health, pp. 204 to 220.

Competent inspectors of animal food and dairy products can not be found or educated at once. The rules to govern them will be a problem in themselves and must be the out-growth of experience. As Dr. Wm. B. Clark suggests, the Board of Health might go to the Jewish Rabbis and the Talmud for their formulas; but the inspectors should be practi-

cal butchers, should know the anatomy of the beef, sheep and hog, the pathology of their diseases, be instructed in the use of the microscope, the clinical thermometer, and the symptoms of diseases. In short, should have a scientific education. How soon may we find them?

Instead of turning out a troop of young medical doctors every year to *practice* on a sick and suffering community with drugs and nostrums that Shakspeare said should be thrown to the dogs, why not offer to them honorable employment as preventers of disease as an inducement to pursue special studies in comparative anatomy, to qualify themselves properly to perform it? If the Jewish Priest did not deem it beneath the dignity of his high and holy office to decide upon the fitness of animal food for his people, why should the modern disciple of Esculapius object to learning the art of slaughtering animals, and the scientific management of dairies and creameries?

We are living in a new era of scientific discovery, which has brought about new conditions of life. Science is simply the truth about things. Pasteur did not disdain getting down to work among the silk-worms, and in the cellars and fermenting rooms of breweries. He is the great master. Why then should the young graduate of medical colleges not seek this new field of usefulness to man?

It is too much to hope that the world may be entirely rid of consumption and other contagious diseases. Diseases and death came into the world by sin; and science, in throwing its arc-light of investigation into the mysteries of susceptibility and insusceptibility to disease-producing organisms, arouses a violent suspicion that the consequences of many sins—gluttony, intemperance, impurity and all kinds of excesses and sinful privations—are the cause of rendering the human system susceptible to the inroads of the noxious microbes. Be this as it may, much may be done to restrict them and to reduce the death rate from their cause. That much has been done in this direction is matter of history. It shows that the sanitary engineer has done more than the pharmacist. What Jenner has done against small-pox, Koch may do against consumption. He is holding up the lamp to our law-makers. The State alone has the wealth and the power to act efficiently. Let it follow the line he is pointing out. Let it protect the well. It is difficult to quarantine a household against itself—likewise a city. But much can be done. When a person dies of consumption, diphtheria, scarlatina, cancer, or any other deadly contagious disease, make it compulsory for the family, nurses or attending physician to report the fact to the Board of Health and the Clerk of the Circuit Court. Make it the duty of the Board of Health to compel the thorough disinfection of all the effects and surroundings of the deceased person, which are susceptible of disinfection, and the destruction by fire of those that can not be disinfected, after payment of their assessed value. Make it the duty of the Clerk of the

Circuit Court to notify administrators and executors of their duty. Provide suitable penalties for its violation. Super-heated steam is acknowledged to be the best disinfectant of such articles of wearing apparel and household use as will bear washing. Boards of Health should therefore be provided with portable steam boilers and tested steam tanks to hold the articles to be disinfected. Public laundries, jails, poor-houses and hospitals should likewise be provided with them.

These things can not be accomplished all at once, nor to their full extent by legislation alone. They require the co-operation of an enlightened community. But this is no reason why a beginning should not be made. The legislation indicated will promote both education and agitation.

What a wide field for the Board of Health. What an opportunity for the legislator. Who will be the sanitary Stanley to penetrate the disease-darkened centers of civilized America, and let in a flood of scientific light, so as to disclose the cause of disease to it, and induce its law-makers to awaken to a realization of the truth that it is microbe-laden dirt, impure food and drink, and negligence that cause disease and death, oftener than the direct decrees of an overruling Providence (against whose mysterious designs and works we are not saying a word) and that the well-worn motto, "An ounce of prevention is worth a pound of cure," is more effectual in fighting diseases when put in practice than the whole pharmacopia.

TOO MUCH LAW.

BY H. W. TAYLOR, M. D., ANDERSON, IND.

A wise and humane law was proposed in the last General Assembly upon the recommendation of an expert, and defeated upon a quibbling technicality, sprung by one of those biennial parrots of the law, who glory in posing as expositors of the Constitution. Upon Warden Patton's earnest recommendation a bill was brought before the Legislature transferring insane prisoners from the penitentiary to the asylum for the insane, upon the order of the Governor, which order was to issue upon the report of the prison physician.

It will be conceded at once that such a transfer is eminently proper, and rests upon precisely the same humane principles which permit and compel the sending of a prisoner with typhoid fever to the fever ward of the prison hospital. And if there had been an "insane" ward in

the prison hospital, it seems that the mouth of the constitutional expounder, above-mentioned, would have been closed. But there being no such ward in the prison hospital, and it being, in the nature of things, next to impossible that there ever should be such a ward in any prison, the conclusion reached by the Legislature under the guidance of the constitutional expounder is that the insane prisoners must remain in the penitentiary until sentence expires, or death comes to relieve the victim of the law.

"To take the insane prisoner out of the penitentiary and to put him into an asylum for the insane is a setting aside of the sentence of a court," says the parrot! And before this declaration the legal minds of the assembly are paralyzed apparently; for nobody seems to have offered in reply the obvious answer that any serious sickness of a prisoner must and does interrupt and temporarily or permanently set aside the sentence of a court which commits the criminal to "imprisonment in the penitentiary at hard labor." And because of the paralysis which overtook the reasoning faculties of the General Assembly on the putting of this constitutional objection, the State of Indiana is continued in that category of 15th century communities, who mangled, starved and beat the insane, or chained them in stone dungeons, cut off from air and light, until death came to free them.

To treat this technical legal parroting seriously, it may be asked whether it is or ever can be practicable to set up a ward for the insane in a prison. All the skilled alienists of the earth would answer "no," in chorus—if they could put their several negatives in good Anglo-Saxon. All students of mental diseases know what mighty import adjacent surroundings hold for the brain sick. To remove the insane from the scenes and themes of the locality in which he was when attacked, to put him where all the influences and external impressions will be the most favorable for mental rest and quietude and peace—these are the plain and unquestionable indications to be followed by his physicians. Could this be done, or attempted, or even logically contemplated, within the walls of that gloomy castle of terror and shame that stands in the mind of the prisoner as the epitome of all evil and calamity? Such a question needs no answer.

But there are two considerations upon either of which a Christian jurist with a fair knowledge of the principles of law, and no more than the average human malevolence in his heart, ought to vote for the transfer of the insane criminal from the prison to the asylum upon fair evidence of the existence of mental disease.

First, it is pretended that punishment for crime is wholly designed for the reformation of the criminal. Nobody attempts to uphold imprisonment as a means of vengeance upon the offender, although it is very doubtful if any other consideration than revenge ever entered the mind

of judge, jury or prosecutor concerned in the trial of a law-breaker. But mere human vengeance can not be upheld as a factor in the punishment of crime. It is, therefore, the moral effect of an imprisonment which is to be alone taken into consideration upon any general view of the criminal himself. How then are we to look upon a law which has pronounced sentence of imprisonment at hard labor for the reformation of a man, who, immediately or later on, turns out to be bereft of reason, and therefore impervious to the moral effect of the sentence, so far as any possible reforming is concerned? It seems to me that this is another question that needs no other answer than its bare statement.

But the second of these considerations upon which a Christian jurist with a fair knowledge of the principles of law must conclude that the insane asylum should be the city of refuge from the penitentiary is, that high crimes are inexplicable upon any other hypothesis than that the criminal is, or was at the time of the commission of the crime, insane.

This is not a popular doctrine to advocate. But it is the only doctrine that squares itself with the facts and the immovable logic of the subject. Let me put this as succinctly as possible.

All of the obviously and unquestionably insane have almost constantly operating impulses to commit crimes. Amongst these, murder, self-murder and arson are the most frequent.

All those belonging to the so-called criminal classes are known to be afflicted with certain neuroses, such as inveterate neuralgias, paralyses and the general paralysis of the insane, softening of the brain, epilepsy, etc. And there is strong grounds for the opinion that the commission of crime and violence, when premeditated, and therefore most obnoxious to the law, are outbursts of an obscure or hidden epilepsy. This position is strongly fortified by the frequency of crime under the influence of alcoholic poison—a mental condition almost identical with that of epilepsy.

These coincident facts point to the general law that great crimes, such as murder, suicide, arson, robbery, theft, etc., are due to diseases of the brain, going to the extent of insanity. If this be so, how wide, indeed, how swept clean of every obstruction, ought to be the avenue from the penitentiary to the insane asylum!

Let the great State of Indiana, first as she is in the correct mental training of her school-children, be also first in the correct mental discipline and medication of her insane criminals. Let her go forward steadily in a plan of investigation of crime and insanity—an investigation instituted upon the persons of her criminal classes—that shall infallibly demonstrate that insanity and crime stand to each other in the relation of cause and effect. Then will come the brighter day when jails and penitentiaries will be unknown, and in their places will arise the benefi-

cent roofs of the hospitals, in which the brain-sick criminal of every grade and degree shall find his properly classified ward. The armed guard will give place to the skilled physician and the trained nurse; and an enlightened civilization will no longer be confronted with that world-old enigma, the man who deliberately prefers to be bad out of an unreasoning and unreasonable perversity of mind and character stamped upon him by his Creator. Then will it be fully known that such an anomaly as the man born and created bad is, and ever has been, a false view. Then will it be known that but for disease of the brain, differing in none of its processes from diseases of any other organs of the body, there would be no criminal classes, no crime.

Let Indiana begin this study by passing Warden Patten's bill at the next General Assembly. In the meantime it may be well to consider whether the Governor, invested as he is with the power to set aside in toto the sentence of a Criminal Court by pardon, has not also the lesser power included in this grant—to transfer the insane criminal to the asylum without specific legislation.

CHEAP DISINFECTANTS, ETC.

BY H. V. BROWN, M. D.

For domestic use in every home, and for public places in general, I will give a partial list of antiseptics, deodorizers and disinfectants. In our last report of vital statistics there is very little instruction given. Perhaps every county uses something to destroy the odor about their poor-houses and jails, but what is best to use, and for the least money and labor is the object of communication upon this subject. Practical sanitation is based on the view that all infectious diseases are caused by a specific infectious substance—presumably a living germ. Disinfection is perfectly secured only when this germ is destroyed, and a disinfectant is therefore, strictly speaking, a germicide. There is a class of agents which arrest putrefactive decomposition. A substance may arrest putrefaction without destroying the infective disease germs; antiseptics are not necessarily disinfectants. There is another class of substances which destroy odors; these may neither arrest putrefaction nor kill disease germs. Then deodorizers are the least efficient for the arrest of infectious disease germs (or agents). Now by careful research we find that many of the agents used as disinfectants and deodorizers, are without value entirely for the destruction of disease germs. This we find to be true in the example that sulphate of iron or copperas, a salt which

has been extensively used with the idea that it was a valuable disinfectant; sulphate of iron, as a matter of fact, does not destroy (in saturated solution) the vitality of disease germs or the infecting power of the material containing them. The following points are worthy of careful notice: We do not doubt that antiseptic agents exercise a restraining influence upon the development of disease germs, and their use during epidemics is to be recommended, when masses of organic material in the vicinity of human habitation can not be completely removed, destroyed or disinfected. We have the advantage in the sick room, for we know where to find the disease germs and know how to kill them. Among the disinfectants, chloride of lime surely ranks as one of the first; with it may be placed corrosive sublimate and permanganate of potassium. I will give a few formulæ which can be readily made, and are very reliable and the cheapest to be had for ordinary use in infectious fevers:

First. Chloride of lime, ℥iv . Soft water, one gallon. Use one pint of this solution for the disinfection of each discharge in cholera and typhoid fever, etc. Mix well and leave in vessel at least ten minutes before throwing in privy vault or water closet. The same directions I give for the vomited matter. Infected sputum should be discharged into a cup or suitable vessel half filled with the solution. Second solution, which is very effective, is to dissolve corrosive sublimate and permanganate of potash, of each two drachms in one gallon of soft water. This solution should be left for a longer time in contact with the infected matter. It has the advantage of being odorless, but highly poisonous, and injure lead pipes if passed in considerable quantities through them.

Other formulæ might be given, but they have no better effect and are more expensive. A powdered disinfectant which is very good and can be readily made by any person, is to simply take chloride of lime, one pound, corrosive sublimate, one ounce, plaster Paris, nine pounds, well pulverized and thoroughly mixed, for disinfecting privy vaults, excreta, etc.

For disinfecting clothing, the solution first mentioned diluted with nine parts of water, the clothing left immersed for two hours; or take corrosive sublimate four ounces, permanganate of potash one drachm, soft water one gallon, using one ounce of the fluid solution to the gallon of water. Boiling for half an hour will also destroy the activity of all disease germs. If clothing can not be treated by the above solution or boiling, they may be disinfected by exposing them to a dry heat of 230° F. for three or four hours. This dry heat of 230° F. does not destroy spores, but is effectual for the destruction of disease germs which do not form spores. And there is reason to believe that the list of disease germs may include small-pox, cholera, yellow fever, diphtheria, erysipelas, puerperal fever and scarlet fever. Moist heat is more effective

than dry; and ten minutes exposure to steam at 230° F. will destroy all disease germs, as well as the more refractory spores. It is impracticable to disinfect an occupied apartment, but when an apartment has been occupied by a person suffering from an infectious disease is vacated it should be disinfected (before occupancy), as follows: All surfaces should be washed and scrubbed with a solution of corrosive sublimate, one part to one thousand parts of water. The walls and ceilings, if plastered, should be whitewashed with lime solution containing corrosive sublimate (one to the thousand), or they may be brushed over carefully with the above solution, care to be taken to wash away all dust from window ledges, and thoroughly cleanse all cracks, crevices and out-of-way places. After this cleansing of the walls and ceiling the floor should be scrubbed with soap and water, very hot. Then doors and windows should be thrown open and the room should be subjected to free ventilation for twenty-four hours at least; and after this thorough ventilation the floors should be scrubbed the second time before the apartment should be occupied. If it is desired, in addition or in place of this method, to use fumigation, it will be necessary to close the room effectually to disinfect the room completely, as all cracks and crevices should be closed entirely or the gas might escape to such an amount as to be ineffectual after all. Burn three pounds of sulphur to each thousand feet of air space. When using the modes of deodorizing and disinfecting which is here given I know we are using something that is reliable and much cheaper than the one-dollar-a-bottle solutions kept in drug stores. I think this way of disinfecting should be thoroughly carried out in our county houses, prisons and private places all over the State.

PATENT MEDICINE.

BY A. S. HUSTON, M. D., ANDERSON, IND.

I.

As I consider the consumption of patent or proprietary medicines one of the greatest curses to the health of our people, I desire to present a few thoughts for consideration.

Most persons who are afflicted and suffer, desire relief at once and are not willing to wait the course of proper medication and relief by the removal of the diseased condition, but prefer the blissful oblivion of narcosis. Hence the fascination of those advertisements that fill our

newspapers, thrown broadcast in pamphlet form, posted by the roadside in conspicuous letters or attractive pictures, or thrust into every home upon a beautiful card, asserting the power of some agent to give instantaneous relief and their ability to produce a speedy and "sure cure." To say nothing of the untold amount of poster, card and pamphlet advertisement, which meets the gaze of the passer-by on every hand and is found in every household in some form, we find the newspapers filled with the glowing accounts of marvelous and "speedy cures" of what is generally recognized as the incurable diseases.

On examination of an eight-page, six-column county paper, which I presume to be a fair sample, I found three columns of patent medicine advertisements, making one-sixteenth of the entire paper. These advertisements were twenty-eight in number, very judiciously arranged in various parts of the paper, representing twelve different manufacturers in their respective locations reaching from the old Bay State on the Atlantic coast, to the city of the golden gate situated on the shores of the placid waters of the Pacific, and setting forth the wonderful properties of sixteen different preparations, some new and wonderful, others well tried and never failing, curing all forms of disease from "ninety per cent. of all consumptives" and a "guarantee that six boxes will cure any case of softening of the brain, premature old age, barrenness, loss of power in either sex, and refund the money if the treatment does not effect a cure." "I warrant my remedy to cure the worst cases of epilepsy. Send at once for a free bottle of my infallible remedy." "We will give one hundred dollars for any case of deafness (caused by catarrh) that we can not cure. Send for circular, free." "An important discovery; they act on the liver, stomach and bowels, through the nerves. A new principle; they speedily cure biliousness, the liver, piles and constipation." "Every tissue of the body, every nerve, bone and muscle made stronger and more healthy by taking." "Are recommended by the best physicians because they are free from calomel and other injurious drugs, being composed of purely vegetable ingredients. Is the best remedy known to the medical world." "Itch cured in thirty minutes." "I cure fits! I warrant my remedy to cure the worst cases."

To which might be added many more as positive and extravagant expressions, which, if uttered or sent forth in print by the best physician in our land, would but prove him to be a *fraud* and an object of violence for his deluded victims after having proven the falsity of his statements. Yet these same expressions delude the public year after year and causes its thousands of victims to add to the financial success of these unscrupulous, fraudulent patent medicine venders; unscrupulous, because in presenting their goods to the public they have no regard for truth, simply making such statements as are designed to inspire hope and create a desire to try a sample bottle, which is a greater delusion

than the advertisement itself and is more certain to secure a recruit to this army of victims.

For a large per cent. of these preparations contain some form of sedative or narcotic, which, upon first administration, in many cases produces quiet and causes the sufferer to become oblivious to his true condition and impressed with the idea that he is being restored to health, but a continuation of the same preparation sooner or later causes such an irritation or depression as to necessitate its discontinuance, or the system becomes so accustomed to its influence that the dose must be increased to produce the required effect, in either instance leaving the case in a worse condition than before taking.

This is often illustrated in the so-called "liver regulators," the dose of which must be increased to produce its desired effect or discontinued, because of its irritating effect upon the bowels. And in the so-called "fit cures," where the paroxysms are suspended by the depressing influence on the nervous system, but sooner or later the result of the medicine is far worse than the disease, which must also be borne by the sufferer.

Also in case of "sure cure for consumption," the sedative effect of which allays the irritation or suspends the waste for a time, which, if too long continued, shortens the days of the sufferer, or, if it again returns, it is with greater waste and a weaker patient.

I would not assert that no one has ever been benefited by these nostrums, for relief and even cure may follow their use, but because of this fact I could no more advocate their use than I could advocate a recurrence of the great Chicago conflagration or the Johnstown flood as a financial measure simply because in their occurrence were presented the conditions necessary to make some one rich, but on the whole was destructive to the interest of the masses.

II.

When we for a moment consider the vast sum of \$22,000,000 expended annually for patent medicines, (besides untold thousands for drugs) and find 553 places in the United States in which they are manufactured, and 827 various kinds patented—besides countless non-secret compounds the properties of which the people are just as ignorant—and find the shelves of every drug store containing large numbers of these preparations, and find in a large per cent. of the homes, they are being consumed, it is not necessary to multiply words or put forth any argument to establish the fact of a vast consumption of these preparations.

But we are restrained to ask ourselves a few questions, the consideration of which may lead us to more fully comprehend this subject.

What is the cause of this vast consumption?

Is it a necessity to the health of our nation?

Or is it a habit, the indulgence of which grows and increases its demands, as does any habit?

Who is responsible for the growing demand, the people, the physician or he who desires to dispose of his commodities?

We believe the most potent cause to be the erroneous ideas of the people, induced by a false education. The people have been taught and entertain the idea that a sprain or bruise can be cured by liniments and lotions, that a wound can be made to heal by the "healing ointment" or "never failing salve." That the ulcer, pimple and pustule is caused by bad blood, which is relieved of all its impurities by the indubitable alterative compound. That he who has no appetite can secure one from the use of drugs, and he who is weak can be made strong by tonics, forgetting that a sprain, bruise, wound or pimple was never healed by drugs, nor a loss of appetite or strength restored by tonics, that this must be done by nature alone, and all that medication can do is to supply the environments demanded by nature.

We could not consistently say they are a necessity to the health of our Nation, for if we did so we would depreciate the value of many noble men, who have, and who are giving their lives to the study of pathology, symptomatology and therapeutics, and many others who treat successfully the numerous and varied forms of disease without the aid of these preparations, and denounce their use as pernicious and injurious. Besides, observation proves to us that the continued use of most of them demands their discontinuance and the aid of a reputable physician to relieve the sufferer of their hurtful influence. Besides, many who concoct these compounds are not physicians, and of the number who are physicians, many are unacquainted with the science of the healing art, and are given to unscientific, empiric, routine practice, and have concluded that a few compounds is all that is necessary to relieve the afflicted.

Habit has much to do with the increasing demand for these preparations. A habit is formed by their use, as in the use of tobacco, wine, beer, or any habit, the longer it is continued the harder it is to free one's self from its grasp, that has so stealthily and unconsciously seized its victim, but freedom, from whose embrace requires the combined energies, which are oftentimes too weak.

How often do we find the pill victim, who has formed the habit of taking their pill each night to keep their bowels regular, or the sufferer from indigestion, who take their digestive compound to prevent them from suffering from that excessive meal of rich, indigestible food; or

that sufferer who has been weakened by dissipation, excesses or improprieties, seek restoration in the so-called "tonic," forgetting that nature is unrelenting, and for every time there is an over-demand upon her forces, in excesses, dissipation or improprieties, she demands retributive justice, and expects her own, with ten-fold interest, paid in the aches and the pains, and the sufferings of body and mind.

When we ask who is responsible, the echo comes back to us from every quarter, the people, the proprietors, and the physician. The people, because they demand these nostrums and continue to consume these mixtures, many of which, if taken by a person in good health, would make them sick. The people, because they persist in their midnight revelry and debauchery, and come home with an exhausted vitality, and hope to make restitution therefor in the anodyne preparation known as "nerve tonic;" and the pain that admonishes them of the danger of exposure and excesses, is suspended by the soporific "sure cure for rheumatism and neuralgia," to return at some future time with greater violence.

The excesses in eating that bring the painful stomach, the heavy head, the languid body, are counteracted by the depleting physic, while the demands of the palate continue to be gratified, and continue to swallow these potions, not giving care to the preservation of their health. And when they can not control these ailments by their own restrictions and care, take the advice of some honest, reputable, conscientious physician, who will use all his knowledge and time to secure for them that condition of health that requires no medication, instead of subjecting them to continual drugging. The men who place these nostrums before the public are largely responsible for the growing demand. In setting forth the merits of their mixture, they are careful to enumerate and make prominent those symptoms common to the most of invalids, or prevailing in a certain class of troubles, and when the eye of him who is weak in mind as well as in body beholds such an accurate description of his case, his mind at once comprehends in the one who can so accurately (?) describe his case, the ability to successfully prescribe for him, and at once becomes anxious to try the much vaunted mixtures.

Another ruse of the patent medicine vender is a "new and wonderful discovery," "an entirely new principle for the treatment of disease," impressing the afflicted with the idea that they are first and foremost in the research and discoveries of the day, while in most instances, they are simply parasites, that draw their nourishment, live, flourish and prosper by the labor of others, never adding anything to the curative art, but constantly drawing therefrom. Parasites being but the paupers of nature.

Willful misrepresentation on the part of these mixers and dispensers

of nostrums does much to increase the use thereof. The individual whose health is failing, who receives not the benefit or encouragement from their physician that they desire, but see the prospects of life fading day by day, are fruitful subjects for those who have no regard for truth and seek only the financial enrichment of self.

Then is the time the manufactured testimony of the imaginary individual does its work. Creates within the incurable one a hope, begets within him a desire to try, at least, the vaunted compound that claims to be a "sure cure" or a "never-failing remedy."

Of the three responsible parties named, none are more guilty than that class of physicians who follow that line of empiric, routine prescribing based upon the treatment of disease by name instead of conditions. These physicians continue their examinations no longer than to be able to classify the ailment according to the general classification of disease, when at once the remedy is known, as they have their mixtures that they prescribe or dispense for headache, neuralgia, constipation, rheumatism, indigestion, etc., without regard to any distinctive characteristics or special symptoms.

If a case of headache presents itself, the favorite headache prescription is prescribed without regard to the conditions that are present in that special case, set forth by the symptoms that may reveal the real cause, and point out the required remedy.

If a patient comes with a cough, no time is spent in ascertaining the conditions present in that particular case; whether the cough be dry or humid, laryngeal or bronchial, catarrhal or tubercular, or any other distinctive characteristic, but the simple fact that it is a *cough* is sufficient to warrant the administration of that never-failing cough mixture, which stands on the shelf or is written in the prescription book with invariable precision.

If a case of rheumatism occurs, the "old reliable" rheumatic prescription is administered, regardless of whether the ailment be muscular, ligamentous, or articular, or consideration of the heat, color, soreness or intermissions, nothing further being necessary in their diagnosis than to classify the case as rheumatism, and if not relieved by the "old reliable," all has been done that can be, and a trip to the springs becomes necessary to the restoration of the patient.

And there is that prevailing ailment, *dyspepsia*, that holds securely its thousands, and makes life miserable for its tens of thousands, each of these routine empiric prescribers have their "*dyspepsia cure*" that surpasses in its curative properties that of all others, and as soon as enough is known of the case to classify it as one of dyspepsia, the cure-all is administered without regard to the individual symptoms, the only means of knowing the real condition, and hence the selection of the proper remedy. That bane of female existence, "female weakness," is

treated in the same routine manner, without regard to the particular ailment or the character of the trouble, the "female regulator" is prescribed, which is oftentimes a mixture of ten or twelve agents, with the hope that some of these agents may secure the desired end. In this same routine manner the whole catalogue of disease is treated, and if there be any doubt as to what class the ailment belongs it is called "malaria," and the specific for this class of troubles is quinine.

This routine prescribing supercedes what should be the science of medicine by a drug traffic; the patient comes to recognize the sameness of the prescription, and that the basis for their prescription is the same as that of the patent medicine, upon the general classification of disease, they soon learn to diagnose their own case, and call upon the empiric prescriber for dyspepsia syrup, neuralgia powders, liver pills, rheumatic drops, etc., and as this kind of dosing induces the drug habit, which they must gratify by continuous administration, their patients soon come to look upon them as drug traffickers instead of physicians acquainted with the science and art of healing, and they come to demand of them quantity of medicine and not ability, and if they do not furnish an adequate amount they will try a free-trial bottle of "cough syrup," or purchase a bottle of "liver regulator," because a greater quantity can be secured of the druggist than the physician.

There is another phase of empiric practice that not only induces the drug habit, but is closely allied to the administration of patent medicine. We have reference to that class of practice induced by ignorance, fostered by laziness, and perpetuated by stupidity of the physician, and the shrewdness of the drug manufacturer supplying the physicians those preparations that can be easily dispensed, but bear the similarity of the patent medicines by being classified for ailments in general classifications, such as headache, neuralgia, dyspepsia, female weakness, constipation, etc., and are laid on the physician's table in trial packages to induce him to try them, as does the patent medicine manufacturer in putting his trial packages before the people, and with as wide and elaborate recommendation, with much the same ring, like unto the following, found in medical journals:

"*Neurosine*. A reliable and trustworthy remedy for relief of hysteria, epilepsy, neurasthesia mania, chorea, uterine congestion, migraine, neuralgia, all convulsive and reflex neuroses. The remedy par-excellence in delirium and restlessness of fevers."

"*Dioivburnir*. A reliable remedy for the relief of dysmenorhea, amenorhea, menorrhagia, leucorrhœ, subinvolution; checks threatened abortion and vomiting in pregnancy; directing its action to the entire uterine system as a general tonic and antispasmodic."

These, with many of a similar kind, are found highly (?) recommended, and daily prescribed by these routine prescribers.

There is another phase of routine prescribing, done by a few, that also savors strongly of patent medicine. A doctor—advertises himself as the most successful in the West, “by reason of new methods of treatment of his own invention, new remedies for neuralgia and rheumatism, curing them quickly.”

The patients soon compare treatment, and find that all the eye cases are supplied with the same kind of ointment; that all the neuralgia cases get the same prescription; that all the rheumatics get the same medicine, and this routine soon leads to the same end that all other routine prescribing does, a demand for quantity of medicine, and not a recognition of a skillful physician who is able to examine his case, and by the symptoms therein presented recognize the condition of his case, and the need thereof, and prescribe therefor intelligently according to the conditions, and not empirically based on a general classification.

May the day soon come when the routine prescriber recognizes something more to be desired than his own ease, self-aggrandisement and emolument, and recognize the higher obligations of the profession—the advancement of professional efficiency and the best interests of the people, by the administration of medicine on scientific principles, and not encourage the pernicious habit of nostrum taking by empiric routine prescribing.

A. S. HUSTON, M. D.

Anderson.

TUBERCULAR BACILLI AND TUBERCULOSIS.

BY C. S. BOND, M. S., M. D., RICHMOND, IND.

Never has more earnest attention been given any subject in medicine in so extensive a field, than has been bestowed upon this, and no subject more fully demands such attention.

It would be a rare chance in the midst of such active investigation, covering the smallest divisions of this subject, if any one were permitted to present anything new in this field, and I shall abandon such an effort in the start, and shall attempt only to contrast in a short paper some opposing views of these workers, and endeavor, in my own mind at least, to determine the present status of this work.

Each individual (which must often be attacked by bacilli and is said, in consequence, to be driven from the normal state into a condition of tuberculosis) is composed of a collection of cells, possessing singly and

collectively vital potentialities. In the simplest form the protoplasm of which these cells are largely composed, may be said to be almost indestructible, but when found as units of a whole, as in the higher functional life, this life yields to the destruction of function, which either cuts off the cell's nutrition, or throws it off from the individual. The total resistance of these unit cells may be said to be the resistance of the person, which must vary from time to time and measures the degree of vitality. Many external and internal agents and changes conspire to modify the amount of vital energy that an individual can manifest at any one time in a given direction, and two foes making an attack at the same time would each have an enemy half so strong to conquer. That there is such a union of action in the individual, composed of such cells, is almost an everyday observation. If the leg be amputated at the ankle, and afterwards at the knee, the mortality is greater in the last operation. An extensive abscess produces fever, a general malaise and wasting of the tissues. Again, a person so lowered in vitality is a much easier victim for other diseases and suffers generally from concurrent troubles. Indeed, if we can express disease at all in definite terms, it can be said to be the relation which exists between the normal and a subnormal vitality. The war which is constantly going on between these collections of cell forces and their environments causes an almost continual fluctuation of this measure. The manifestation of this force, at least, can be increased in certain muscles and organs by a proper daily use or by stimulants up to a certain maximum intensity, when all effort fails in that direction. This manifestation may also follow any active disturbance in a part or the whole of the body, as for example, after typhoid fever or a surgical operation, the apparent vital resistance is increased (and no doubt such is the case). Again, if we reverse the argument from a whole to a part, we find the law holds good, that when any local resistance is to be met, the part is reinforced and the resistance of the part is equal to something slightly less than the whole. This is shown in all local lesions, which do not involve a special function as an organ the body becomes emaciated, weak and finally may even succumb. All the functions are performed in a sluggish or improper manner and the total resistance is much lowered. In as few words as possible I have tried to express the laws of the *vis a tergo* or vital resistance, which are common observations, and I believe it to be most essential to understand them as thoroughly as may be, in the beginning of this investigation. In the last few years the most of the work that has been bestowed on this subject has been given to the branches and the bacilli which now and then light on them, while the trunk and roots of this great tree have almost been forgotten. Grant now that the bacillus of Koch is an environment of the tubercular person and that this bacillus is continually at war with the cells of the body, what, in the light of the laws already referred to,

can we say of the contest? These bacilli are found in the blood, and indeed, almost all tissues of the body in varying numbers from the day we were born until the day of death. In twos and threes we certainly are not conscious of their presence, the cells must resist or even destroy them. Indeed, it is now conceded that the blood has this power to a remarkable degree. Bacilli are in the blood at all times, or such a condition is highly probable, since the opportunity is afforded quite often for such infection. These bacilli are brought in contact with the cells of the various vessels throughout the whole course of blood-vessels, and by some means these cells resist the invasion of their action, even at the valves of the veins, or in cases of venous stasis no successful attack is made in many regions of the body. It is claimed that these bacilli do not feed upon such tissue, and only those that find the proper cells are found active in the battle which results from such an attack. More blood would go to the part as soon as irritated, and the leucocytes, which are known to be especially fond of these bacilli, would doubtless play sad havoc with those actually coming in contact with them. As the irritation increases it would seem highly probable that these leucocytes would find their way to such region in great numbers, as the theory now stands in the commonly accepted views of information. If the lungs were the only seat of tuberculosis we might escape a part of this argument, since we could then find a home in tissue, with at least a thin wall barring these bacilli-fearing white blood corpuscles; but we have tubercular joints, lupus, tubercular glands, and indeed, tuberculosis is common in most regions of the body in many persons, where bacilli can not be found unless carried by the blood. Again, tubercles are not always directly in contact with the blood vessels, but may, and generally do, involve the subjacent connective tissue first, and not the wall of the blood vessel or capillary in a primary lesion, as would seem logical in case the bacillus came from the blood. In the lung the disease seems to have two foci as starting points, the one in the connective tissue at the junction of the bronchioli and acini and the lymphatics of the bronchioles, the other in the bronchial glands. Loomis, of New York, has lately demonstrated that probably these glands are the seat of the first invasion. If bacilli are a prominent factor it would seem the most reasonable point of invasion, since it is in this way that the lesion is most likely made in the mucous membrane in order that the connective tissue may be involved later. Now, with the skin and mucous membrane intact, it would seem that invasion could not take place, although slight evidence has been produced to the contrary notwithstanding. If these surfaces are abraded the bacilli are ruthlessly precipitated into the blood and devoured by leucocytes and blood plasma.

In proper media these bacilli multiply in enormous numbers in a very short time. If this be the case in all persons, four-fifths of all individuals

never feel the consequences of such a terrible struggle. In many conditions a larger portion of the human family are exposed to floating thousands of these bacilli with again the results just stated. Think of the millions of bacilli the vitality of Dr. Koch must have put to rest in the last dozen years while constantly at work with these cultures. Tuberculosis, while it is more prevalent in large towns and cities, still exists in rural districts, remote from such centers, and, indeed, existed in the first settling of these territories. It is claimed that there is a limit beyond which no individual dare venture in this war with these bacilli. Yet, as I have stated, it is a fact that three-fourths, at least, of all persons run this gauntlet without disease of the lungs, and two-thirds never have any apparent tubercular disease. If a person has tubercle lying in a small town or in the country and goes to a high altitude, where he can be associated with many diseased persons, as in going from Indiana to Colorado, he gets better in a majority of cases in the early stages, although Colorado ought to have more bacilli to the square inch than any State in the Union, and although the individual has taken the same nidus and culture with him that started his downfall at home. Some of these individuals recover even without moving with, so far as can be seen, the same nidus and environment. Indeed, some authorities claim that the tendency is to recover in the first invasions. The argument, therefore, from analogy is not very striking, and could easily be reduced to ridicule by citing a case of small-pox that was proposed to be removed for health on account of auto-infection. Even if the analogy should hold, this, no more than any other infection, should be considered apart from its vital environments. The bacilli are not the disease, neither are the forces in the body disease. Such a disease, as all others, must be the resultant of two or more opposing forces, and it is no more important to watch the bacillus, even if it were the only contesting external power, than to know how much force there is for defense. Now, it is an observation that where tissues are not used, as I have pointed out in the general law, that a lessening of resistance results. Even an organ or a function may be lost by conditions which render either or both unnecessary. Fishes in dark caves have no eyes; a limb bound down becomes useless, from ancholosis of the joints and wasting of muscles or both. Again, on the other hand, an organ or tissues may be increased in size by exercise or stimulants. In a more nomadic state of our existence the long chase, laborious efforts to survive, expanded our chests and lung tissues as well as our hearts and muscles generally. As we now sit in our offices and become each generation more sedentary, a certain amount of this lung space is not used and nature begins to dispose of it, by first allowing a low grade of vitality and then a kind of metamorphosis of tissue and finally, in some cases, either by the aid of bacilli, or from the continuation of the same retrograde changes in these cells,

that have already commenced, tubercles result. That more people in cities should have tuberculosis seems reasonable on this hypothesis, since in such places we find the physical conditions more favorable for the development of it. In rural districts the inhabitants are compelled to follow the original mode of life. It is often noted that active young men from the farm are much more subject to these retrograde changes with resulting tubercle, when suddenly brought to sedentary life, than those not so reared.

Dr. Charles E. Woodruff, in an article on "Diseases of Northern California Indians," states that civilization has caused consumption to become exceedingly prevalent and fatal; that whole families are often wiped out of existence; that among the half-breeds the disease is most fatal, and children taken into white families in vigorous health, after several years of civilization under the best conditions, good food, clothing and care, fall into consumption and die. And it is said by physicians in that locality that to take an Indian girl into such service is to pronounce her death sentence. This condition exists in a climate very favorable to those having the disease and such as we would expect our tubercular patients to improve in, if sent from the eastern or middle States. The one great change in these persons has been to take them into sedentary life from an active life, and thus subject them to the influence of the law before referred to. That this is not the result of tubercle is shown by the fact that the conditions did not formerly exist in the same locality and environments with the exception of change in habits among a civilized people presumably improved by these environments. The same arguments might be applied to the negro race, among whom the mortality is now so great from this cause. Again, if the argument needed strengthening still further, I might cite numerous instances among the lower animals in activity and confinement. It is well known that they suffer and die from tubercle in great numbers, whereas it is very rare among them in their native conditions.

The most common seat for the beginning of these tubercles is in the subclavicular region, the least used portion of the lung under ordinary circumstances. That there are also many other possible causes that may favor these changes I most firmly believe. Indeed, it is hard to conceive of all the remote cause of such a condition in a body whose parts are so intimately associated. A few years ago Drs. Bowditch, Buchanan and Pettenkofer wrote extensively on moisture of the soil, as a special factor, and showed that drainage had lessened the mortality nearly fifty per cent. in some localities. Again, Dr. Charles Denison says that the mortality rapidly decreases from this cause as we pass from the sea, and that on the fortieth parallel at the coast 10 to 20 per cent in the United States occurs. On higher ground on this same parallel under 1,000 feet, 5 to 10 per cent. ; from that height to 2,000 feet, 2

to 5 per cent. ; from that height to 4,000 feet, 1 to 2 per cent., and seldom a case above 6,000 feet. At 6,000 feet and above the individual would have to breathe about twice as fast as when at the sea level, and consequently the lungs would be expanded with residual air and an increased resistance or increased vitality be established in the cells of the lung, on the principle of exercise causing such a change in tissues.

Again, malaria is supposed to, and no doubt does, bring about a want of resistance by dividing the body forces, and thus predisposes to tuberculosis. It is obvious, therefore, that the tubercular bacillus, when much is granted that is now claimed by its most ardent supporters, can only be considered a factor in the vast majority of cases, and that the proper methods of treatment must lie, at least so far as we now know, in bringing up the vital resistance to its maximum intensity. It is always highly essential and economical to reduce the friction and waste to the minimum, but it is far more essential to provide what in living organism is often taken for granted, the greatest possible energy of the whole and of its several parts. If doctors will give more attention to this side of this vast field of remote disturbances, however much they may be fascinated with extrinsic causes of this disease, their patients will enjoy many more years in this world, than when tortured by every nostrum that in so many ways is now being put into these sufferers. To make a general proposition, without making specific mention of all the many possible causes that may be factors in the causation of this much-to-be-dreaded disease, I will state that in all probability any one of these causes acting singly but rarely, if ever, produce tuberculosis, and that consequently in most cases the conditions underlying the final explosion are many, and often have been making fallow the soil for a long period of time, if perchance the soil was not, in some instances, a suitable nidus at birth. It is now claimed by men who have been following the line of the above arguments that tuberculosis is a constitutional disease, and that the local lesion has been preceded for a long period of time by these factors, which have thus prepared the way for this final culmination. Dr. Meigs, of Philadelphia, has recently written an extensive article on the subject, which, although I have not seen it, I believe covers a part of this ground. The history of chronic cases is that of a general malaise for several months before the cough begins, which is attributed to an indigestion, a constipation, overwork, a reversal in business, a malarial attack, or one of a dozen other states of ill health. It has been expected that this cause, whatever is claimed, would wear off, but it has continued, and now after a year, or may be even longer, you are consulted by a coughing patient with a small subclavicular tuberculous area in one lung. No doubt there was a period in these months that have passed when this area could not have been detected, and probably a step farther would find a lung without tubercle, but surrounded with the

proper physical environments. If we could recognize these preceding steps sufficiently early to interfere with this retrograde process we might save many patients such a fatal termination. The doctors of the future will in all probability be doctors of such small troubles as now receive but little attention and are considered of no special importance. Reasoning from what is observed of other chronic diseases having a long preparatory stage, it might be affirmed that it is late in the course of the disease when tubercles begin to form, and it is even later when the bacilli begin their intimate association with them in most cases. Although we are now in the midst of one of the greatest excitements on account of the proposed Koch lymph, I believe that more is to be hoped for in this line of investigation, with early diagnosis, than any other, although I want to reserve the right to modify or cancel this view, if deemed necessary, when Koch's work is all done and the facts in.

A part of the proof of a theory, and generally a very large part, is to see, when it is faithfully carried out, whether it will account for all the possible conditions. Let us try this test on these different views. On the assumption that tuberculosis is caused solely by the tubercular bacilli, very naturally much attention has been given this little body in the various civilized countries of the world. Its life has been circumscribed. Its diet is known to the various details, as well as those things that give offense or take its life. The degrees of temperature are well marked out between which it lives and beyond which it dies. Its favorite haunts are well known, as well as the number of its fellows in definite localities. Indeed, no such a small organism has ever had the attention in life and death as has this bacillus for the past ten years. Even the products of its presence in the various tissues are known, and have been used in thousands of experiments. A knowledge of the different conditions under which this bacillus lives has led to the supposed proper methods of treatment. Creosote, because the bacilli will not grow in solutions of a strength of 1,000 to 2,000, is considered a valuable remedy, and Robinson, Brunn, Bourget, Guttman, Watson, Summerbrodt, and a host of others, obtained good results in the past. De Renzi, Kinyoun and Trudeau, with others, recommend hot air from 120° to 230° F. Eucalyptus oil is recommended by several others. Thymol, also, holds a strong place in the minds of others. Balsam of Peru comes in for a share in this fight against the bacilli. Carbonic acid gas is used by Hugo-Weber. Hydrofluoric acid, aniline, ozone, tannin, insufflation of calomel, sulphide of calcium, all have warm advocates. Not to speak of injections per rectum of various gases with such wonderful results in the past, we have now come to the age of hypodermic injections, at first of modified bacilli, with also wonderful results, and now we are having the whole world startled again by a lymph in the hands of Dr. Koch.

If all these so called cures really cured, why need we still be seeking in vain for a specific for this disease? Now, the facts are that none of these remedies, up to the ones now under experiment, have merited any considerable part of the claim made for them, and where so many remedies, covering such a vast therapeutic field, lay claim to cure, the fact itself throws a doubt on all, and perhaps more persons have been hastened to their graves than have been kept out by these methods. I believe there are more causes than one involved in this death-dealing malady, and until these causes are all recognized and properly considered, we shall go on in the blind way of the present without even a proper regard for the natural histology of the disease.

PROPRIETARY REMEDIES.

BY D. W. DRYER, M. D., LAGRANGE, IND.

“Hope springs eternal in the human breast,”

And mineral springs eternally, through their promoters, have their praises sung, and thereby is kept up a constant agitation of that part of the human economy located somewhat below the human breast.

One day, shortly after the era of flowers, alumni dinner and parting God speed—who does not look back to the time with dimming eyes—there came to my table a “proprietary” pamphlet. Scanning it over my eye caught the name of a recent classmate. Upon reading the testimonial over his name I was overjoyed to learn that he was using “exclusively” in his practice a certain mineral water which had selected the west lake coast as the proper site at which to well up, and that, in his “opinion,” it had no equal. Dear boy. I liked him, for had we not warmed the bleaching boards together? and I knew that in the whole class he had no equal—with pencil and paper in delineating the fathers at whose feet we sat. In his *opinion* and *exclusively*. To my certain knowledge his shingle had cleft the breezes for nearly a mortal month, and here he was already singing praises and rendering tribute unto Cæsar.

We are older now and I trust some wisdom has come with the years. Doubtless he has learned, as many of us have, that testimonials don’t pay, unless you are of those whom the world calls great, and receive the check at the time of giving testimony. He may have learned, too, that a little “epsom” in peppermint water, before breakfast, has,

after struggling along for years, acquired some reputation as a bowel wash. Even our friends, the druggists, have seen a light, and while "rochelle," "glauber," and the like, hold out, I doubt not they will be able to produce effects in tint, flavor and christening to suit the most fastidious taste. Why not?

This is an age of great inventions and unlimited extensions;

Tinseled round with loud pretensions, and things that one can have as well as not.

If you are reputable, and will agree to pay express charges, a full-size sample bottle will be sent.

Gentlemen, have you ever strolled at even-tide of a balmy day in June, when the tumble-bug is wont to wrestle with his problem? If so, and after witnessing such delectable enterprise, did it ever occur to you how short the step is to a mental condition in which one can take an interest in the contest between the fellow who puts his "barley extract" in a "squatty" bottle and the one who uses a more elongated mold? There is some compensation in this last, however, as both parties, after selecting their *size*, fall to and proclaim to the world each that the other is a fraud. Likely, in view of this, we should incline to some leniency because of a probable truth conjointly averred.

Did you ever notice, my professional brother, that a combination of chloral, bromides, cannabis, etc., will, if administered, have a soothing effect, even if you put up the mixture? If you have not, try it on some one and note results. If it don't work foreswear your genius, pull down your sign, and thereafter prescribe an "eight-dollars-a-dozen" article, chemically pure, and with a more-or-less formula attached to relieve you from the un-ethical aspects. Then, too, you may have noticed that a little biniodide, poke and stillingia in syrup will begin to "alter" if you give it a proper chance to blend with its host. But why waste any time or energy in compounding it yourself or in having your druggist do it? Is there not "Allsok's Alterative Alleviator" already prepared, and which numberless physicians proclaim to be the greatest cure-all on earth? Just direct your patient to get a bottle of that, he'll get more if he thinks he needs it without bothering you, and as he will also tell all of his friends that you advised him to try it they'll try it, too, when they suspect they are in the same fix he was. This plan will keep you from getting weary after it's well under headway, and about all you will have to do will be to attend society meetings, and now and then help an infant to change residence—the latter two fields having not, up to date, been pre-empted by the "proprietaryes."

Dear Doctor, are you aspiring? Would you have the fair goddess of fortune come and lie down with her head in your lap? Then the world is all before you, where to choose—but I would advise you to go to St. Louis.

Put a few dollars in an inside pocket, start your *laboratory* and surely not many moons should elapse ere you are become a great medicine man. Even Rain-In-His-Face, or Hole-In-The-Seat-Of-His-Pants, with other celebrities so lately silhouetting on our western horizon shall not be more kindly remembered than you, nor will the medicine, which you concoct, be less widely heralded than theirs, in all the press. I swear it!

Equally momentous with the question as to the needle-and-thread method as a cure for rats, is the one as to whether or not Churchill's is, after all, the correct formula. Whether or not he knew his business may never be known, but certainly those who come after him know theirs, at least the business end of it, when they set themselves to constructing a syrup of the hypophosphites. I confess that to this day I don't know if manganese should ever "be in it." But I think we will all agree that iron, quinia and strychnia are sometimes of value and sometimes not. And I have further learned that a nice, pure syrup properly combined with such hypophosphites or other salts, as indicated in the case before you, does just as well—pardon me—when home-made instead of "proprietary," and costs not half as much. This is only a suggestion. No extra charges.

A great man has told us that wine, Mary Ann, (excuse the spelling) with erythrox is almost miraculous in its action. Of course! McBayer, spring of '81, is also good for that tired feeling, but the occasion rarely arrives where you should enlarge it with quinine or erythrox.

But why go on? Just now the bacillus tuberculosis is on his last legs and annihilation confronts him—perhaps.

"Like cures like"—soaked in glycerine; simple, isn't it? Make all you please of it, gentlemen, it's not *proprietary*.

Shades of elixir vitæ and gaseous enemata!

When two blades of grass grow where but one grew before, a public benefactor has passed that way. And he that adds to our armament *one* weapon, true shall be beloved of men and their children, even to the latest generation, shall rise up and call him blessed.

It is no part of my purpose or wish to condemn all proprietary remedies. Some of them are of real worth and their use is sometimes a matter of great convenience. Those which come with only a blank label attached, with formula and directions on a stub, easily torn off, evidently show faith by the manufacturer in their quality and a desire to rate the physician above a mere salesman in putting them to their intended use. But what do we owe to the man who arrays his goods in all the glory of red paint and tinsel, and then with gall sublime advises us "to specify no other." Not of such will it be ever said, "Now you see it, and now you don't." Prescribe it once or twice and to your loss

you'll see it, aye, you'll see it! Like a note "at sight" or Banquo's ghost, it will not down, but—

With thumb at nose and evil eye,
It will leer from many a shelf;
And although your pockets jingle—
It may mean *nails*; 'twill not be pelf.

Quite likely some of you will not agree with me, but as you pay your money you can take your choice.

HISTORICAL NOTES ON THE INSANE OF INDIANA.

BY JOSEPH G. ROGERS, M. D., PH. D., MED. SUP'T. NORTHERN INDIANA
HOSPITAL FOR INSANE.

Previous to the commencement of the present century there were but two institutions for the care of the insane in the United States—the Pennsylvania State Hospital and that at Williamsburg, Virginia. The number of insane persons in this country then was unknown. In England and Wales, at that time, there were but fifteen asylums, public and private, and, officially registered, about six thousand insane.

Ten years ago there were eighty-five asylums in this country, and about ninety thousand insane persons; in England and Wales, one hundred and seventy-five asylums and about seventy-four thousand registered insane.

In 1840 there were two hundred and forty-one insane in Indiana, the population then being about a half million; the ratio, one in two thousand. In 1880, in a population of about two millions, there were, as nearly as can be estimated, thirty-five hundred lunatics; one in every eight hundred. It must be remarked in this connection, that the increase of the ratio must be considered in the light of the facts that enumeration forty years ago was very imperfectly done, and that, in newly settled territories, the population is mainly composed of the sound and vigorous, the tide of emigration leaving its refuse stranded on older shores.

In no part of this country can the sociologist find statistics sufficiently free from accidental sophistication for accurate use in determining the real increase of insanity in the population of the world at large. Even in Great Britain, with its comparatively unvarying types of population and admirable methods of enumeration, in use for many decades under

the auspices of the Lunacy Commission, it is conceded that the increase of ratio is in part more apparant than real. Therefore, it is not to be assumed that, within a period of forty years, the ratio of insane to population has increased from one in two thousand to one in eight hundred. That it has slowly but surely increased, however, is the verdict of the most careful analyses of available facts. That it will continue to increase is inevitable until society wakes to the danger and defends itself by permanently assuming the care of all insane persons and by enforcing rigid regulations for the ablation of every predisposing and exciting cause of insanity. To perfectly achieve a millenium of mental health may never be possible; but vigorous efforts have been and must continue to be made towards that end. With the spread of sociological knowledge has grown a demand for protective measures, not simply against the unreasoning acts of the madman, but against madness itself—not only that the victim of mental disease be humanely and scientifically cared for in proper hospitals, but that the germs and causes of the malady be, as far as possible, rooted out from society.

The provision of means for the care of those already insane, and the protection of society from the effects, present and future, of their acts, are the prime demands, because the reasons therefor are most salient. It is to this division of the subject that I wish to direct your attention.

The first movement, with practical result, in Indiana, towards asylum provision was a memorial introduced to the Legislature in 1842, by Mr. Hannegan, from Dr. John Evans and Mr. Isaac Fisher. Dr. James Ritchey, chairman of the committee to which it was referred, reported favorably and offered a joint resolution, which was passed, requesting the Governor to make inquiry and report to the next General Assembly all relevant facts, with plans and estimates for an asylum for the insane. Governor Bigger, in his message to the Legislature of 1843-4, made such report, with plans prepared by Mr. L. P. Smith, of New Albany based on those of the Massachusetts and Ohio asylums.

On January 12, 1844, Dr. W. T. S. Cornett, of the Senate, now a venerable and honored resident of Madison, the revenue bill being under consideration, moved an amendment: "That one cent on the hundred dollars be levied as a fund with which to erect a lunatic asylum." This was adopted. The sum of \$12,000 accrued during the year therefrom.

The General Assembly of 1844-5, pursuant to an able and earnest message from Governor Whitcomb, passed a bill, reported by Dr. Ritchey, directing the purchase of a site. Dr. John Evans, Dr. Livingston Dunlap and James Blake, Esq., were constituted a commission to carry out the law.

In 1848, \$50,000 having been expended for buildings, etc., the present hospital was opened, under the superintendency of Dr. R. J. Patterson, by the admission of forty patients into what is now the south wing of the

department for men. One hundred and four were admitted during the ensuing year, as rapidly as room was provided.

The census of 1850 gave the number of insane in the State to be over six hundred; in the United States fifteen thousand six hundred and ten. At this time there were thirty-two public and private asylums in the country.

In 1851 the Constitution of the State was re-established. In Article IX thereof are the words: "It shall be the duty of the General Assembly to provide by law * * * for the treatment of the insane." In 1855 the hospital had capacity to accommodate two hundred and twenty-five inmates; in 1857, capacity for three hundred. On April 3, of this year, on account of the failure of the Legislature to appropriate funds, three hundred and three inmates were sent home to their counties. A large majority of these were placed in poor-houses, the remainder were confined in jails and out-buildings at their homes. Twenty were subsequently cared for in the asylum under an arrangement with the counties. In October the institution was re-opened, funds being extra legally supplied by the State officers. In 1863 and 1864 a similar condition was similarly met, without, however, the discharge of any inmates. In the meantime, no advance was made in the increase of capacity, notwithstanding the biennial demand therefor on the General Assembly.

According to the census of 1860, there were one thousand and thirty-five insane persons in the State.

1865, \$35,000 appropriated to erect buildings for the chronic insane, was applied to the construction of the north wing of the existing building. Between this period and 1870, the north wing and rear center were completed, and in the latter year opened for patients. In the following five years the south wing was enlarged and the basement remodeled, thus bringing the capacity of the hospital to the number of six hundred and forty. The chronic need for more accommodation, always inadequately met, still existed. There were two thousand insane then in the State, and only one-fourth cared for.

In 1875, after much conflict of interests and theories as to location and system, the construction of the present department for women was authorized by law. Entirely finished and equipped in no part, it was partially occupied in 1879, since which time it has remained a monument of the neglectful procrastination which has for forty years till now characterized the legislation of this State in this relation.

With the General Assembly of 1883 must always rest the honor of at length fulfilling the constitutional obligation of thirty years duration. In that year provision was made for the establishment of three new hospitals for the insane, one at Evansville, the others to be located at the discretion of the commission charged with their construction,

each to have a capacity for from 200 to 700 patients. Work was promptly commenced, but owing to the failure of necessary legislation in 1887, their completion was much delayed. The Northern Hospital, at Logansport, was opened July 1, 1888, the Eastern Hospital, at Richmond, in June, 1890, and the Southern Hospital in October of the same year. These have a capacity for 1,260.

The State hospitals for insane can now accommodate altogether about 2,800 inmates. In 1880, according to the census, the total number of insane persons in the State was 3,500. There are annually about 350 new cases; of these the accumulation of chronic cases in a decade must have been very considerable, using the ratio of 1880, there must be at present about 4,725, excluding idiots, who, in 1880, were more numerous than the insane. Whether the provision to date is sufficient, remains to be determined; that it is not excessive is fully proven.

OUR BABIES.

A. G. PORTER, M. D.

It is said by some one, perhaps a philosopher, it is true, however, as the book of Moses, that a house without a baby is certainly a very poor house, cheerless, lonely and desolate. But if the little one is in the enjoyment of good health, the pleasures of life are greatly enhanced. Thus, the good health of the baby makes it the day star of the family circle. But on the contrary, when it becomes, from any cause, feeble, anæmic and filled with pain and uneasiness, a clouded household is the result. On one side we have full, nice development with an outlook pleasurable and prosperous, while on the other hand we see the certainty of decay and probable death.

Then all sanitary effort, those favoring restoration and the preservation of health are in order. The nourishment, the clothing and care are of the utmost importance.

Then with reference chiefly to the nourishment of babies during the first year. The mother's milk under ordinary circumstances is the food *per se*, practically it is nature's own provision for the sustenance of her offspring, she having been provided with all the necessary appliances.

No intelligent lady, no sane medical man will contend for a moment, that we possess an approximate substitute for the mother's milk—allowing her to be in possession of reasonable health. We know that in many

cases women bear children when they are in the advanced stages of tuberculosis, or are from other causes the subject of anæmic, then we would at once place the little one in care of a wet nurse, or in absence of that, we would be forced to artificial feeding and take the benefit of the chances. Thus, some mothers are forced to artificially nourish their offspring, because it is more dangerous to do otherwise. While others think that to feed it at the breast is immodest, unrefined, or keeps her too long out of society.

But these latter are not of the class of good mothers of which Shakespere speaks, who is made to say of her own experience, that

"I have given suck, and know
How tender 'tis to love the babe that milks me."

Then the milk from the healthy mother's breast, prepared in nature's own laboratory for the express purpose, and is perfectly adapted to the needs of helpless infancy, possessing all the elements essential to the building up, and to the development of bone, muscle, nerve and brain, when the mother is healthy not only as a matter of sanitary precaution, but of affection as well. Again, she is to be well cared for, well fed, well clothed, and not over-worked.

Every medical man of any considerable experience or observation on this subject is sadly forced to say that an appalling percent of infants and children nourished with the ordinary baby foods, as sterilized milk, boiled milk, malted milk, or any of the slops sold in the market, have within the first two years gone to join the angels.

Every practitioner who has enjoyed a considerable business has no doubt had his share of trouble and worry in the treatment of this class of patients, and has had occasion to look back regretfully over his successes, as he notes the mortality of those deprived of their natural means of sustenance during the first and second years of life, especially when he remembers that those who thus far successfully pass the two first years are still followed by a discouraging mortality until they have reached at least the twelfth year. Statistics here come in play, and tell a mournful story. They give us about these facts: That the percentage of deaths in the first two years of those fed at the breast is about nineteen per cent., while those dry nursed is fifty-three.

In Europe, where these matters have been thoroughly tested in hospitals for foundlings and friendless children, the per cent. of those dry nursed reaches sixty and even eighty per cent. Now, why this wonderful disparity at once thrust upon us? First, one is nourished from nature's one provision, while the other, from the force of circumstances, is compelled to take into a tender stomach all kinds of foreign material, indigestible, unwholesome and unsuited to its conditions of baby life. It is important, though almost impossible in hot weather, to keep your bottles and appliances perfectly clean, sweet and free from microbes.

Again, milk is frequently procured from the dairy where cows are ill fed and housed in dirty stables. Thus we get milk that is unhealthy, reeking with disease germs, to say nothing of the tubercular bacilli not uncommon in cattle.

It is no hard matter to establish the fact that outbreaks of disease, such as diarrhæ, dysentery and typhoid fever have been traced directly to the milk supply, which has been rendered unwholesome from improper feeding and polluted water supply, hence we are compelled to regard the healthy breast milk of the mother as the typical nutrition for the infant. But when necessity, stern necessity, drives us from this, the next best is the new, rich milk from a healthy cow, properly fed and housed, and furnished with pure water to drink.

POISONOUS HOUSE DECORATIONS.*

BY W. B. CLARKE, M. D., INDIANAPOLIS.

The general subject outlined in the above head is, in its relations to health, undeniably of great importance, but this article can not treat so great a theme in its wide-reaching entirety, but will select for study some of the relations which arsenic bears to my subject.

"Sanitary Furniture and Decorations" may well be called a comparatively new topic, and it is one demanding much study by experts, and time, too, for its proper development, because of its influence upon the health of man and its intricate, even mysterious, relations thereto. For instance, the French government not long ago appointed a commission of experts to test the chintzes and cretonnes so much used in house furnishing and decoration, the final report being that the browns were often dangerous, even to handle, as well as the greens, while in other colors, also, there was a dangerous quantity of arsenical coloring material. So it is easy to perceive that there are other "green goods" dangerous to handle besides those which the agents of the United States secret service are trying to handle and prevent other people from handling.

Many city newspapers frequently make use of the expression, "This is pre-eminently a city of homes." As has been said, after all, what have we to do in the world but to build up fine homes? If that is done, the rest is done, for a city or a nation is only an aggregation of homes. But

* From the Cincinnati Sunday Enquirer.

what shall it profit a man to build a fine house but have sickness in his family all the time?

Though this article will be confined to arsenic, it will not be made up very largely of personal and original investigation, but mainly of compilations from recent literature thereon, scientific and exact.

The amount of arsenic used in this country yearly is enormous, as statistics show that the importations alone are about 10,000,000 pounds a year, to which must be added the large quantities from western mines and other sources. In other words, there is enough used to give every person in the United States several ounces—three or four. To quote Dr. Talbot, a Boston writer: "Two grains taken into the stomach at once is sufficient to cause death. Fortunately the human system can resist the poisonous effects of many substances when introduced into it in small quantities and slowly, yet there are many instances in which persons have been directly and fatally poisoned, and a very much larger number of persons who have been seriously injured, by the contact and absorption of this poison."

CANCER CAUSED BY ARSENIC.

I believe it a safe assertion to make, that physicians and the general public are viewing with alarm the rapid increase in the number of cases of cancer and malignant tumors in the United States of late years, but will not weary you with the statistics proving it all, and speak of it here simply to ask, may there not be some mysterious connection between this undeniable and undesirable condition and the wide-spread use of arsenic in the arts and manufactures in later years? Hahnemann wrote, eighty years ago, of arsenic: "Its effects are so powerful upon the human economy that we can not decide whether it is more hurtful in the hands of the foolhardy than it is salutary in the hands of the wise." He was a keen observer, and the founder of the system of medical practice now known as homeopathy. The basic principle of this system is that in treating the sick their symptoms must be met by the medicine or drug which will produce in a well person symptoms nearer like the disease-symptoms than will any other drug. This, then, is the doctrine of "like," or "similia." In the light of this explanation it may be appropriate to quote from a recent article by Prof. J. S. Mitchell, of Chicago, in order to prove my claim that arsenic may be a cancer causer:

"It is gratifying that the truth of Hahnemann's law of Similia seems, by my experience with cancers, to have received a strong confirmation. Arsenic could never have effected so many remarkable cures of cancer in the past, as witnessed by numerous physicians, among whom I will only cite Fallopius, Bernardt and Ronnow, if its metallic oxide did not possess the homeopathic power of producing in healthy persons very painful

tubercles and deep and malignant ulcers, which are cured with difficulty. The ancients would not have been unanimous in the praise they bestowed on the arsenical plaster of Angelus-Sala against pestilential buboes and carbuncles if arsenic did not, according to the report of Degner and Pfann, give rise to inflammatory tumors, which quickly turned to gangrene. Those who are unwilling to accept anything from homeopathic sources may note that recently Jonas Hutchinson stated that arsenicum will produce cancer."

Space may here be reserved for an authentic assertion that the "pastes" and "powders" of the "quacks" and "cancer doctors," used locally by them and usually designated as "purely vegetable," are almost invariably composed principally of arsenic, and that their ineffectiveness as curers, as well as the trouble and pain they cause, may be traced to the fact that too much is used. Analysis has proved this. Prof. Maisch submitted to Prof. Moerk for analysis one such of considerable Eastern reputation, the report being: Arsenious oxide, 62.19; charcoal, 36.82; moisture, .99. The charcoal served as a disguising colorer and to base a "vegetable" claim upon. These "cancer-cured-without-the-use-of-the-knife" specialists thus cater to the natural shrinking from the knife feeling pervading human kind, but unfeelingly cause far more suffering and deaths than the knife, after all.

FACTS RECENTLY PROMULGATED.

In now coming closer to my general subject, its interests can not better be subserved than by briefly reviewing the flurry occasioned by its recent consideration in Boston, which commenced in this way: The Boston Homeopathic Medical Society made it the subject for discussion at a regular monthly meeting, and had engaged Prof. E. E. Calder, of Brown University, Providence, R. I., to lecture upon arsenic from the chemist's standpoint. The Professor described the various chemical tests for arsenic, in combination or free, and displayed on the walls, appropriately labeled, many samples of goods and papers, dangerous and harmless, and concluded his lecture with these words:

"By far the most prolific source of arsenical poisoning arises from the use of wall papers, draperies, curtains, carpets, etc., containing arsenic. There is no question but that many of the materials used to adorn our homes to-day contain arsenic in greater or lesser quantities. A wall paper can be made that contains no arsenic, because we often find samples on sale entirely free from it."

Dr. I. T. Talbot, the accomplished Dean of the Boston University School of Medicine (Homeopathic), then followed Prof. Calder, speaking as follows:

"The peculiar character of arsenic and its wonderful power of combination with other substances to produce a great variety of brilliant and

enduring colors has brought it into a very extensive use, which has steadily and rapidly increased, until it now enters into the manufacture of a very large variety of domestic articles, many of which are worn as clothing or brought into close contact with individuals, and there is hardly a household in the country but has more or less of this poison in some form within it. We sleep in bed-rooms, the walls of which are hung with paper filled with arsenic. Our most beautiful draperies are equally loaded with this poison. We sit upon sofas that, every time they are compressed, throw into the atmosphere this same poison. We wear clothing containing enough arsenic, if taken into the stomach, to produce speedy death. Our little children are wrapped in beautiful shawls containing this death-dealing drug. Their playthings are rendered more beautiful and attractive by this very poison. The papers in which their bon-bons and candies are enveloped are colored with arsenical preparations, and even the utensils in which our food is cooked are sometimes lined with this poison. To-day one of the most honored citizens of Boston (ex-Mayor Cobb) is lying on his death-bed, after two or more years of prostration and suffering, and it is only within the last few months that it was discovered that his urine was loaded with arsenic which his system had been gradually absorbing from long-continued exposure to it. The nicer chemical tests of late years are discovering the same condition in many chronic invalids, while every physician has had cases which, resisting all treatment, he has been obliged to send away from home into different surroundings before they could be relieved. Arsenic taken into the system in this insidious manner not only produces the symptoms peculiar to itself, but from its depressing influence upon all the vital functions renders it more susceptible to every form of disease to which it may be exposed. Ought we not, then, to have laws which will protect us from this insidious danger which is concealed under forms most attractive and adhering? That arsenic is a very important substance in the arts and may in many cases be so combined as to be partially inert is very true; yet as it is often left in a free condition and capable of producing poisonous effects upon the human system, why should it not always when so offered for sale be labeled as poison, just as our druggists are compelled to do with it?

Dr. J. P. Sutherland then reported a case of poisoning of a child six years old. For two years of babyhood he had been perfectly healthy. Then his color became bad, tongue coated, etc. There was no explanation of his condition. Arsenic was found. Then it was discovered that peacock blue paint in one room was loaded with arsenic. Removing the paint the boy recovered health. He also described the poisoning of a taxidermist who used arsenic in stuffing birds.

Dr. J. H. Sherman narrated a similar story of a taxidermist who, after eighteen years of suffering, finally died from mere exhaustion.

The society, after a long debate, passed resolutions to the effect that, as arsenic is "used in large quantities in the manufacture of goods for domestic use, such as paper hangings, draperies, wearing apparel, children's toys, etc., and as many persons are poisoned through ignorantly using such articles, and often suffer loss of health, and even life thereby, this society is of the opinion that the State should pass such laws as will properly restrict the manufacture and sale of all articles for domestic use containing arsenic by providing, among other things, that when articles containing such matter are offered for sale, they shall be clearly and legibly marked to show that they contain poison, and providing also that the violation of such laws shall be punishable by fine or imprisonment, or both." It was also decided to appoint a committee of five to help secure proper legislation, and to call upon the other medical societies of the State, upon all the physicians, chemists and scientists, as well as the citizens at large, to aid in this effort to protect the public health.

The newspapers of Boston then began stirring up the matter, and finally public opinion on the subject became so strong that the Board of Health had to make an investigation of it, and a mass of valuable information was elicited, which may be referred to by those interested. One fact was brought out quite prominently, namely, the varying susceptibility of different individuals to the effects of arsenic, as, for instance, slight traces of arsenic in a wall-paper are sufficient to cause one man much suffering, while a much larger quantity seems to have little effect on others. Hon. E. A. Morse testified to having had severe headaches until he had his hat lining analyzed; arsenic was found in it, and he substituted silk lining, when his headaches did not occur. (Dr. Stickler reports, in *New York Medical Journal*, May 29, 1886, that of 551 deaths among hatters in Orange and Newark, 367 were from lung diseases, a per cent. of 66.6.)

The *Boston Herald* put its interviewers on the scent, and one day published the following cases, all contributed by "a prominent chemist," who first remarked, "there are a great many cases to-day where people complain of 'that tired feeling,' that, in my humble opinion, are due to arsenical poisoning." His first case cited was that of a woman who was sick every spring and fall, traced to arsenical wall paper in her spare room, never used by her but cleaned by her twice a year. Another where, though the arsenical sickness was present in the family, the arsenic could not be found, till finally he tore off the paper and analyzed the old paper over which the last paper put on had been laid, when he found plenty of it. In a nursery where there was a sick child he finally found the arsenic in a broad paper frieze of peacock blue—ten grains per square yard. A singular case was that of Miss Daggett, of Commonwealth avenue, who was always sick when at home, but much better when away. It was finally found that the walls of the room under the one in which she slept

were papered with arsenical paper, and when this was removed the young lady got well. He also declares that laundry people sometimes use arsenic to render clothes beautifully white. A watch repairer was severely poisoned by a green eye shade, which he wore much, but recovered when the discovery of arsenic was made and a change was made. A woman ate some prunes, which she took from a grocer's display, and was made very sick, the illness being traced to the green price-card, which had become moistened, the arsenic in it affecting the fruit. This chemist was asked: "Do you think the danger is greater from wall-paper than from other sources?" And he replied: "Yes; because wall-paper is so universally used. And it is found not only in cheap paper, though it is more common there; I have sometimes found it in paper costing twenty to thirty cents a roll. A few years ago I had occasion to paper my country house, and analyzed eighteen papers before I found one free from arsenic. I think the danger is rather less to-day than a few years ago, owing to agitation. The poison is also found in large quantities in some chintzes and cretonnes. Color is no test, and there is just as likely to be arsenic in one color as another. It is used in the mordant or coating which is given to prints to make the color fast."

The Herald concluded its article with this: "The brilliant green leaves and sprays of certain artificial flowers contain large quantities, and the girls' beautiful vernal bonnets, which frame the Easter sermons are, consequently, sources of even greater danger than is commonly supposed. The quantity, which these artificial leaves in the various processes of their manufacture are sometimes made to absorb, is very great. A German chemist found in a spray of twelve leaves ten grains of pure arsenic. This danger is so generally recognized in France that the same flowers which are sold freely in this country are forbidden there."

The Lewiston (Me.) Journal then reported the case of a young man in Bangor who had been condemned to wear eyeglasses all his life because of handling green theatre tickets and then rubbing his eyes, but said nothing about the effect of the green room at the other end of the building. It cited another case, that of a dress-maker in Bangor, who had permanently injured her eyes in making up an arsenical dress pattern brought her by a Brewer young lady.

Dr. M. Maurice reports, in the St. Louis Globe-Democrat, "a case of desperate poisoning by the volatilizing of arsenic from a chair painted with green arsenical paint." And he suggests, regarding wall paper: "It should be abolished anyhow, and plaster as well, all rooms to be wood ceiled, painted or varnished, as being cheaper, less troublesome and more beautiful.

The Boston Medical and Surgical Journal then editorially expressed the opinion that six or seven years ago 40 or 50 per cent. of the wall-papers sold were arsenical, but that, owing to the agitation of the sub-

ject, the per cent. is quite small now, and concludes: "It is true that cases of wall-paper poisoning are still met with, but the majority of these are thought to be caused by papers which were put on the walls some years ago. Nevertheless, the Journal hopes to see some further legislation on this subject."

This item is going the newspaper rounds:

"The men who mine arsenic in the copper districts of Cornwall, England, are paid very liberally, but can not get any insurance on their lives, and if they don't quit after a brief spell of work their wives become widows."

Now appears upon the scene the demon of invested interests, seeking by ingeniously worded and widely copied squibs, true or false, to quiet the spirit of uneasiness nestling in the American heart regarding this danger. The following from the Philadelphia Upholsterer is a fair sample:

"Now, however, the twenty leading American manufacturers of wall-paper take oath that they do not use arsenic in any way. One of them writes: 'Since the days of burning witches there has never been a more ridiculous scare. Wall-paper dealers the world over have never suffered. Salesmen who are continually handling wall-paper never fall victims to its insidious poison. Color-mixers, many of whom have for half a century or more spent their entire waking time with bare arms to the shoulders in colors, mixing them and stirring them continually, never suffer, although these same men not infrequently eat their lunches with hands loaded with colors. Again, arsenic is one of the most expensive materials that can be used for producing those color effects, and for that reason, if for no other, it would not be in the interest of the wall-paper manufacturers to use it when cheap substitutes are easily obtainable.'"

In reply to this the New England Medical Gazette, Boston, says:

"There is little doubt, when we take into account the surprising variety of articles which have been known to communicate arsenical poisoning, that there is scarcely a manufacturer of personal furnishings or household plenishings at whose door may not be laid the charge of ignorantly or deliberately imperiling the health of his fellow beings by sending out under his labels goods capable of communicating poison. Now we have a person poisoned by wearing a cheap dyed glove, now by a pair of bright bonnet strings, now by sleeping in a room "aesthetically" papered, now by inhaling the impalpable dust from arsenic-tinted curtains, now a baby sucks arsenic from the corner of his pretty bed quilt, and now a child suffers from eating candies wrapped in arsenic-loaded papers. The manufacturer solemnly assures us that he could not afford to use anything so expensive as arsenic, which, we discover on inquiry, costs the prohibitory sum of two cents a pound! It all reads like some sensational tale in a penny-dreadful newspaper, but it is, nevertheless, all a deplorable and shame-

ful fact, and will so continue, until our laws demand that a label stating the presence of poison be affixed by every manufacturer to every article containing arsenic sent out by him."

SYMPTOMS AND TREATMENT OF POISONING.

It is now appropriate for me to indicate some of the familiar forms in which we meet arsenic, and yet, possibly, do not very generally recognize the thing itself. Elementary arsenic, called metallic arsenic, is of a steel-gray luster. This is roasted in a current of air, the fumes depositing a white powder almost transparent, but soon becoming opaque, and crystallizing on further exposure to air. It is now called arsenious oxide, and is the form used in medicine, calico printing, etc., as a cosmetic by women, and as rat poison, being nearly tasteless, sweetish if anything. It is about forty times more soluble when boiled an hour in water than when treated with cold water, and when dissolved in water the solution is called arsenious acid, a preparation much used. Arsenic acid is formed by treating this with nitric acid, and this is used in making magenta dye. Mixing arsenic and sulphur produces realgar or red algar, and orpiment or the golden pigment, much used as paints, and sometimes to destroy hair. Mixing arsenious oxide and copper makes the dangerous paris green, so much used as an insecticide and wall-paper colorer, and another green is made by uniting arsenious oxide with acetate of copper, both being much used as pigments. Arsenic will frequently be found in vinegar, if the vinegar is adulterated with sulphuric acid, as is so often done, because commercial sulphuric acid usually contains some arsenic. It may also be found in beer—cheap beer—that has artificial glucose used in its manufacture, for glucose is made by the use of sulphuric acid.

A poisonous dose of arsenic acts about as promptly when used externally (on raw surface) as though internally, producing the same internal symptoms. The prominent symptoms of arsenic poisoning are heat and constriction in throat, unquenchable thirst, burning pain in stomach, with nausea, retching and vomiting, the pain extending to the abdomen, followed by purging; the features are contracted, skin cold and clammy, heart feeble, respiration difficult, the tongue dry and furred, the urine diminished and passed with pain; there are apt to be leg and arm contractions, convulsions, paralysis or painful stupor and delirium, though at the very last the intellect is usually clear. All this may occur in three hours, but small doses frequently repeated may not excite suspicion for several days, when the patient is beyond help. Deaths have occurred in thirty-six hours because too much arsenic has been locally applied to eruptions, abrasions, ulcers or cancers. Its elimination is principally by the liver and kidneys.

The symptoms which would show poisoning by gradual and slow absorption would usually begin with an irritation of the conjunctiva (the mucous coating of the eye and inner surface of the eyelids), the eye becoming suffused and smarting, and the lower lid puffy from œdema, soon followed by irritation of the nose and throat, and the stomach, shown by soreness, weight and burning, and failure of appetite—water not agreeing. Eruptions are sometimes brought out, that extend to severe ulcerations. A peculiarity of arsenic is that it may accumulate in the system without doing much harm for a long time, when it gets stirred up by some food or acid taken, and causes death quickly and mysteriously, occasionally giving rise to unfounded suspicion of criminal poisoning, as probably was the case in the celebrated Maybrick affair in England, three years ago.

In cases of chronic poisoning the source must be removed and the symptoms treated as they rise. In acute cases treatment must be prompt and must be directed toward three objects: (1) The removal of all the poison by quick emetics and cathartics; (2) the neutralizing or antidoting that which can not be removed, by the use of oxide of iron freshly prepared, and (3) sustaining the system, if prostration is great, with the free use of whisky internally and morphine hypodermically if the heart is weak, remembering in those cases that you are not practicing medicine, strictly speaking, but chemistry, toxicology, mechanical medicine.

CHEMICAL TESTS.

Regarding the chemical tests for arsenic, many could be given and much said. This much is positive: Even the most expert chemist can not detect the presence of arsenic in household articles without a careful chemical analysis. Probably the most delicate and indisputable test is Marsh's test; but while it is not a difficult one, it is really dangerous for a novice to attempt, for if the unburned gas escapes and be breathed by the operator, sure death is the penalty. Chemist Gebler was killed in this way by the gas from less than one twenty-fifth grain. All things considered, Reinsch's test is the most available, and is one of the simplest. It may be applied to wall-paper, and to stomach contents, vomited matter, etc., but in this connection it may be well to remember that to examine animal tissue into which arsenic has been actually absorbed, another process, requiring several days to complete, is necessary. The Reinsch test may be called the electrolytic method, and depends upon the property possessed by metallic copper of withdrawing arsenic from mixtures containing it. The test is performed as follows: In a small glass tube boil over a spirit lamp a little of the suspected substance suspended in water acidulated by hydrochloric or muriatic acid; say five parts of water to one part of acid; then insert a clean and bright copper wire, or strip of copper. If there is no arsenic the wire

will remain bright, but if arsenic is present the wire will become coated with it in a few minutes, grayish at first, and becoming black as the deposit thickens. To insure exactness the test should first be performed without using the suspected substance, as no suspicion can then be entertained that arsenic was lurking in any of the testing articles. To insure absolute correctness another precaution should be adopted, as under certain conditions other minerals may deposit on the wire, notably antimony, sulphur and mercury, and nothing short of the sight of the characteristic octahedral crystals of arsenic will actually prove the presence of that poison. Therefore, remove now the coated wire from the tube, and carefully dry it all between blotting paper and put it in another glass tube, dry and gently heat that. As arsenic volatilizes at 200° , the deposit will soon sublime and precipitate on the cooler surfaces of the tube, arsenic appearing as clear, shiny crystals, antimony as a characterless deposit, sulphur as a yellow deposit, and mercury as distinct metallic globules.

In conclusion, it would be hard to offer a suggestion looking toward an immediate legal restriction of this matter in this State which would be of any use for any medical society to adopt, or board of health to recommend. So long as the great State in which we live places no legal restriction upon the sale of all the powerful poisons by the druggists, free and unquestioned to any one, and allows any one to embark upon the sea of trade as a druggist, without the least preparation or fitness, as is now the case, it would be futile for us to attempt to have placed any restriction on arsenic bearing articles. Had I my way, the sale of all articles of the "Rough on Rats" class (arsenical as they are) should be entirely prohibited as dangerous to public health and subserving no good end that other and relatively harmless articles do not equally well serve. Make the procurement of all poisons as difficult in Indiana as it is in England, where, as was elicited in the testimony in the 1889 Maybrick case, the women, in order to procure their favorite complexion-producing arsenic, have to purchase poison fly-paper and extract it by soaking in water.

ACUTE SPECIFIC TONSILLITIS.

 BY S. H. COLLINS, M. D., LAWRENCEBURG, IND.

For the last three or four years my attention has been very frequently called to patients suffering from a form of disease, easily recognized, most uniform in its symptoms, although varying in intensity; occurring both sporadically, but more commonly in groups of cases, running a definite course, and all terminating in recovery. This disease, after much study, I believe to be an acute, infectious malady, characterized by certain local manifestations. A disease not to my knowledge described and given a recognized place in any work on practice. In lieu of a better name I have called this condition "Acute Specific Tonsillitis." This may be somewhat awkward, but from my view it covers the ground. While, as I have just stated, this disease has no proper place in any work on practice, it has been recognized, or half-way so, by a considerable number of writers. Before taking up the subject proper it may not be out of place to briefly call attention to what the tonsils are, anatomically and physiologically. This is best done by quoting Hodenpyl: "The tonsils are lymphoid structures, closely resembling the Peyer's patches of the small intestine, consisting of a congeries of lymph nodules separated by diffuse lymphoid tissue, which are arranged about several hollow depressions of the epithelial covering, the crypts." The functions of the tonsils are not proven. "The tonsils produce no physiological secretion." "The tonsils are not absorbing organs." "Rarefaction of the epithelium of the tonsils affords an explanation" of the way in which the contagion of acute specific tonsillitis "may give entrance to the general circulation." The blood supply of the tonsils is from branches of the dorsal artery of the tongue, branches of the inferior palatine of the facial, and from branches of the superior palatine of the internal maxillary. The veins of the tonsils discharge into the internal jugular. The nerve supply is from the glosso-pharyngeal and pneumogastric, with perhaps twigs from the spinal accessory, (Balme). In connection with the contagion gaining an entrance, through rarefaction of the epithelium, we quote, in addition, the opinion of Netter: "The mouth is a most favorable locality for cultivating microbes, owing to the reaction of the saliva, being slightly alkaline and favorable to their development. Breathing and feeding favors this region for their cultivation. If the respiratory tract be healthy the germs may be resisted, but if accidents of cold or abrasions be present the reception of germs becomes dangerous." In this way he accounts for at-

tacks of definite diseases. The vitality of the microbe, it is suggested, will depend much on the unknown factors, "variability and its own activity, with such meteorological changes as may modify its action."

But to return to our subject. A malady of this nature was spoken of by Maygen, in 1818; Wagner notes it, and Jacobi has referred to it. Flint, after an epidemic prevailing in New York State, in 1857, says: "Acute pharyngitis occurs as an epidemic," and, "in many, if not most epidemics, the clinical history shows the affection to be a form of fever, rather than simply a local inflammation," after an analysis of twenty-three (23) cases, in 1857, he concluded that "the disease was an epidemic fever, characterized by mild erythematic inflammation of the fauces, as a constant local complication." Bosworth gives a fuller description, and places himself on record as believing the disease to be specific in character, but non-contagious. Jacobi believes it to be a mild form of diphtheria, which will be shown to be incorrect. S. Solis Cohen calls it "drain-sore throat," which is a hint at specificity. Beverly Robinson says, "it is true, many cases of follicular tonsillitis can not be definitely traced to a septic cause, but I am more and more convinced that the influences which underlie such evident derangements of the *prima via*, were due to specific germs, or entities, present in the body." Delevan says: "In some instances the disease seems epidemic, attacking persons in the same household, and constitutes to so-called 'spreading quinsy,' a disease suggestive of septic infection."

Froelich reports a case of follicular tonsillitis, followed by peritonitis and death; in the autopsy, Froelich and his assistant received slight-wounds, resulting in severe attacks of follicular tonsillitis. Fox (in Sarjou's Annual for '88) sums this subject up: "There is a commonly occurring form of tonsillitis, symmetrical, varying much in severity, distinct from suppurative quinsy, due to septic causes, often attacking several members of one household." Raven reports an epidemic of exudative tonsillitis, which he believed to be infectious. In Meigs and Pepper's work in "Diseases of Children," we find the statement that this disease "is said sometimes to prevail in an epidemic form." Having shown that I am not alone in the opinion that there is a specific infectious form of tonsillitis, I will describe it clinically. Specific tonsillitis is an acute infectious disease, self-limited, characterized by bi-lateral inflammation of the tonsils, attended with hyperaemia of the pharyngeal mucous surface, always marked by a peculiar exudation from the tonsillar crypts, and terminating in recovery. The cause of disease is not known, but from the character of the malady it is probable that its active principle, like those of the other zymotic diseases, originates within the organism and from it is diffused as other infections. Its germ multiplies in filth; where ventilation is inadequate; in houses overcrowded; from bad drainage; badly plumbed soil-pipes. These and other agencies of like nature serve as fac-

tors in lighting up the disease, and when a suitable soil presents, in preserving the germs therein, from diseased bodies. It seems to be communicated by contact with those sick with the disease. It occurs occasionally sporadically, but as a rule endemically or epidemically. Susceptibility to the disease is not constant. Its appearance is not confined to any season of the year, although it perhaps is more prevalent in the spring and autumn months. Sex and race have no influence. It is most common between the ages of five (5) and thirty (30). The period of incubation varies from two (2) to ten (10) days. The period of greatest septic activity is at the height of the attack, between the second and fourth days. As a rule, an undertone of health renders one more liable to an attack.

One attack does not protect from another. A relapse is very rare. As a rule there are no complications and no sequelae, except rarely a peri-tonsillar abscess may be formed, but in these cases I believe the disease to be of a mixed type, *i. e.*, the specific form associated with a catarrhal tonsillitis. The course of the disease is markedly uniform, although there is a marked difference in the severity of the cases. The onset is usually abrupt, yet, in exceptional cases, there may be a period of some hours of discomfort and malaisè. There is generally a feeling of decided chilliness, or well marked rigors. This condition is rapidly followed by the stage of febrile excitement. The thermometer records a temperature of 103° F. to 106° F. The face is flushed and appears to be puffed. The eyes are suffused and intolerant of light. There is headache, pain in the back, loins, hips and legs. The pulse is full, often tense, from 110 to 130. The skin is hot but moist. The tongue is coated with, at first, a slimy deposit, which rapidly changes to a heavy, dirty yellowish-gray coat. The breath is markedly offensive. The appetite is lost. Sometimes, especially in young children, there is nausea and vomiting. The bowels are constipated. There is some external tumorfaction of the glands at the angle of the jaw. The tonsils show, externally, their enlargement, and the patient complains of considerable stiffness of the neck. The jaws are separated with difficulty. The urine is somewhat diminished in quantity, is high colored and never albuminous. While soreness of the throat is usually complained of, difficulty of swallowing is not as marked as would be expected. Examination of the throat shows hyperaemia of the pharyngeal wall, both tonsils (very rarely but one) enlarged and enflamed. The mucous surface purplish-red. Scattered irregularly over the tonsils are spots of grayish-white exudation, covering the tonsils' crypts, and extending in circular or ovoid patches over on to the surrounding mucous surface. These patches are readily wiped off, and if so done twenty-four hours from the beginning of the attack are not replaced (a point worthy of note, if a graver disease is suspected); nor, if wiped away, does the denuded surface bleed or dis-

close ulceration. Thus wiping off these patches shows the underlying crypt, more or less filled with exudative matter. This exudation reaches its height in about thirty-six hours, and by the fourth day, as a rule, has disappeared. In severe cases these cryptic patches may run together and produce an appearance simulating a diphtheritic deposit in its earlier stage. On or about the fourth day the temperature falls, the pains subside, the swelling of the tonsils decreases, the appetite begins to return. Occasionally there is some slight tumorfaction at the angle of the jaw, but the chief outward swelling is due to the enlarged tonsils, which are usually less swollen than in ordinary tonsillitis. The stiffness of the neck is not as marked as in scarlatina or diphtheria. Convalescence is somewhat slow. The tonsils do not remain permanently enlarged, as so often happens after an attack of catarrhal tonsillitis. Recovery is always complete.

In the study of this disease, harmless as it is to life, its chiefest feature is the diagnosis. It has been, and is, often mistaken for diphtheria. A differential diagnosis can always be made. In diphtheria and specific tonsillitis there is no marked prodromal stage, if there should be any, it is less apt to precede the tonsillitis. Both may be ushered in by chills or rigors, more marked in tonsillitis, followed by a fever, characteristically higher in the non-fatal disease. In both there is a headache, muscle pain, and the functional disturbances incident to a febrile condition, but in diphtheria these symptoms are not so pronounced, though of longer duration. In specific tonsillitis the entire pharynx may be in a condition of intense hyperaemia, but the tonsils only are inflamed. In diphtheria the inflammation is not confined to the tonsils, and in the latter disease prior to the formation of the membrane, these organs are much darker in hue and appear to be glazed. The exudation of specific tonsillitis is over the crypts only, and though several patches may coalesce, the thickest part of the patch is still over the crypt. These patches are more or less ovoid, and are easily detached, when detached do not bleed or disclose underlying ulcers, and do not reform, and are in color a dirty yellowish-white. The membrane of diphtheria begins independently of the crypts, spreads until a patch of greater or less extent is formed, invades larynx and nares, and is usually thickest in its center, wherever that may be, at first white, gradually becoming dark from the seeping of blood from the ulceration beneath. In specific tonsillitis the patches never show any tendency to invade the nasal passages, nor to descend to the lower throat regions. Relapses in diphtheria are frequent, in tonsillitis never. Convalescence from diphtheria is very tardy and often incomplete, in specific tonsillitis, though sometimes a trifle slow, is always perfect. In the latter disease are no sequelae. From common tonsillitis or "quinsy," the specific form is distinguished by being infectious, bi-lateral in its development, attended by cryptic exudation, and generally epidemic in its tendency. From the

herpetic sore throat or "mycotic tonsillitis" of *Cohen*, it is distinguished by the absence of vesicles upon the tonsils, pharyngeal wall and lips. The prognosis is always favorable. Treatment. Unload the bowels, with a mercurial, according to age, give full doses of antifebrin, and if seen early, make one very thorough application to the throat of sol. argent nit. (grs. xxx to lx to aq. distillat 3i), appropriate doses of tinct. ferri, for a week, and as generous a diet of liquid food as patient will take, are the only measures needed.

CITY AND COUNTRY DOCTORS.

BY S. B. SIMS, M. D., SECRETARY CLINTON COUNTY BOARD OF HEALTH.

Of course we are all "doctors" in one sense of the term, but we are also members of the human family, and can therefore lay claim to as great variety as any other class of citizens, professional, mercantile, tradesmen or otherwise. There are among us fools and sages; moral and immoral ones; lazy and energetic; some are brainy, wise and skilled physicians and surgeons, while others are barely of sufficient mental calibre to pass the line of imbecility; some are careful, observing and truthful, others are boasting, empirical numskulls. Some start into practice only after having been drilled long and thoroughly in every department of the science and art of healing, while others swoop down on a community after only a few months' attendance at some inferior institution, but in both instances an innocent, confiding public is too apt to recognize only that each man has a sheepskin, people call him "Doc," and hence one is just as good as the other.

At present, and for some time past, the opinion has been rapidly gaining ground that the standard of requirements for license to practice medicine in this country is entirely too low, and that there exists an urgent need of improvement in the matter of medical education. Learned and practical men are preaching it in the amphitheatres, and it is being spread broadcast over the land through scientific journals and magazines. It is a splendid idea, and the arguments are based upon solid facts. The truth is that the doorway into the medical profession in this great nation is more poorly guarded than in any other civilized government on the face of the globe, and the sooner we can obliterate the idea from our heads that *everything* in these United States of America is better than *anything* in any other country the sooner we will get on the right road for something better, at least as regards medical matters. We already have too many good medical schools (and there are still more poor ones) for

our population, so that the feature of bidding for matriculants becomes paramount to that of instilling sufficient practical knowledge into the young student to enable him to go forth and practice intelligently. While each year the thousands graduated are in name "Doctors in Medicine," they are in reality at best only fairly equipped to begin the study of the great science.

But it is not the intention nor desire in this article to discuss the different methods best adapted to preparing students of medicine for actual practice, but rather to refer to some of the outside influences, which, to a considerable extent, mold and shape the careers of toiling healers from the time they graduate until the armor is laid away.

There is a large number of most truly eminent men in the profession of medicine, and nearly all of them are located in the larger cities. It is natural and fitting that such is the case, but the question that arises is, are these men thus situated on account of their superior natural ability and adaptation, or have some outside influences had very much to do in bringing them to the front? In other words, had the eminent city practitioner a finer quality of brain tissue and stronger intellect to begin with than his country brother? While this may prove true in some individual cases, there is a strong probability, if not a certainty, that the influence of surroundings is responsible for the difference in the great majority of instances.

In the first place, let us lay down the proposition that people, as a rule, are naturally lazy, and that absolute compulsion is about the only stimulation that will effectually develop the best faculties to the limit. The exceptions to this are only of sufficient number to prove the rule.

In order to show the force of this in the medical profession, permit us to cite the difference existing between leading representatives of city and country practitioners as it really occurs, and see if it is possible to demonstrate the causes of that difference. For this purpose we will, for sake of illustration, select a couple of young men and follow them to the end of their careers, both successful, the one as a city and the other as a country doctor. To begin with, they are as nearly equal in every particular as it is generally possible to find two specimens of the race. They are both fine-looking, healthy young fellows, blessed with strength of mind and body. Their preliminary education has been first class, and they are endowed with energy and ambition; both poor financially, but possessed of sound moral character and plenty of pluck. They attend the same medical college, graduating in the same class with equal honors, and then they separate.

After the usual amount of ups and downs in choosing a location one decides to settle in a city, the other in a country village. Both men have the same object in view, that of becoming wise and thoroughly competent physicians to the full extent of their powers. Their aim is set high, and

each strives to hit the mark fairly in the center; let us watch the score as it is made on the two targets.

With the candidate for city honors it is a long-trying struggle for supremacy, but the prize, if attained, is well worthy the effort, no matter how tedious it may be. Even by the closest application to a previously well-mapped program we hear but very little or nothing of the young city settler of average advantages for three, four, five, and may be more years. He studies in his office, attends college lectures and clinics, visits hospitals, and works in the various laboratories and dissecting rooms. He grasps every opportunity to form the acquaintance of professors, adjuncts, clinical teachers and all others of good influence. He is learning all the time, absorbing and storing up precious knowledge, but business, good, solid, substantial business passes him by with unturned head. He has counted on waiting long and patiently for patronage, but that time runs out and repeats itself with the same returnless results. Money grows scarce and patients are still scarcer. The question of how to meet rent, laundry and board bills becomes vastly more serious than the differentiation of abdominal tumors or obscure diseases of the nervous system, and he begins to soberly ask himself if he has not made a mistake locating in a great city, and whether, after all, he was not constructed for a country place. Affairs grow next to desperate, and the only thing that keeps him on his course is the absence of an opportunity to leave it. He is driven to seek advice from some favorite superior, and in return hears of experiences far more bitter than his own, and of difficulties seemingly insurmountable, that have been overcome by some of the most brilliant men in the world long before their brilliancy manifested itself.

Our friend goes home with brighter hopes and a firmer determination than ever to fight the battle through. The struggle is renewed, and after a time a bright spot occasionally appears. He has studied hard, observed closely, is skilled in the use of nearly all the different instruments, is familiar with the different surgical procedures, and is a valuable man in most any situation, so that, when called upon, sustains himself admirably. Now and then he gets a case, or chances to be called as an assistant in some operation where his services are appreciated. He begins to rise, not by long strides, but slowly, and as he rises the eyes of many a superior are turned upon him. Better prospects can be seen in the distance and life's charms grow luminous. He would not now make a mistake for the world, and hence feels the necessity of working harder than ever. He must keep in the rank of men of his years and opportunities and if possible step ahead of them. But they are entertaining similar ideas and all put forth their best energies. Others have risen before them, in much the same manner, and their conquering lies along the same route. Idlers have no business in that pathway. In all our young friend's advancement there is something imperative about every step. Whenever his name is mentioned or

opinions quoted in medical circles his whole professional career is scrutinized and criticised, and he must possess the requisite strength to withstand all attacks, friendly or otherwise. Once into prominence, more care than ever must be exercised to maintain his position among worthy rivals whose greatest ambition is to make still further progress in the science. All that has been learned in years gone by must be remembered, and to that stock all new information must be added as rapidly as developed. As a specialist he is expected by patrons of the better class to give them the benefit of everything known in that branch. True it is that he has every advantage possible, in that he can witness daily almost every phase of human disease and injury with the results of treatment, can obtain any form of known drug fresh and chemically pure, has any instrument desired near at hand and his mind is continually kept brightened by coming frequently in contact with minds equally bright, striving all the time to become brighter. But with all these advantages at hand, he is charged with them by an intelligent public, and much more is expected from him than from the country practitioner, more, probably, than is commensurate with his superior facilities. In all cases professional reputation is at stake, professional pride must not be sacrificed and tireless competitors must not surpass. There's no place to stop and rest, his course must of necessity be upward and onward or the reverse. Genuine hard work is the material which lines and fills the life of the eminently successful city doctor from the first to the last, and the honored name with its deserving wide spread reputation was pushed forward and developed principally through the agency of the little necessities that, from time to time, sprang up along the line.

In the mean time what has become of our country brother? Locating in a thriving village where, as a rule, every body knows each other's business better than they do their own, it requires no extraordinary effort on his part to extend his acquaintance in a very short time throughout the entire community. He is favored with a call the first week, two or three the next, several the next, and so on until he imagines he has struck the best location in the land. The established physicians of the place treat him in a seemingly friendly manner and grunt out a wish-him-success. He hears nothing but the kindest expressions from his new patrons regarding his ability until he attempts a collection, and then discovers that the first rush of business was from that forget-to-pay class that long ago exhausted all credit with the resident doctors. Their complimentary expressions now change to contemptible slurs. Luckily, however, their opinions go for naught with the better class of citizens, and in the course of time some good business comes to him, and his practice grows. Gentlemanly conduct and professional ability make him worthy friends, and he soon secures a fair share of the neighborhood business. The older physicians may not directly speak disparagingly of his ability,

but they take good care not to do anything calculated to make him customers. In reality, they recognize in him a young man of strength and a dangerous rival, so that the jealousy which they try so hard to conceal crops out on numerous occasions. More friends gather about our young candidate, and he takes a prominent position in the society of the place. He sings in the village choir, possibly teaches a class in Sunday-school, marries a daughter of some influential citizen, takes part in all matters pertaining to the general welfare of the community, until his opinions on general subjects are as much respected as in a professional line. In the way of fees comes a horse from one man, a cow from another, hogs from somebody else, with wood, corn, hay, oats, merchandise, etc., etc., from various others, so that he grows as a general trader as well as a doctor. In this way he accumulates property. He probably serves a couple of terms as Township Trustee, and occupies a place on the local school board. "Doc" is quite a man in the neighborhood, and if he happens to be "busy" every time a bad-paying customer calls for him it doesn't hurt his good practice in the least. His medical training is the best in his territory, and that is sufficient for all purposes. He doesn't study nearly so much as he did at the start, partly because so much of his time is taken up with outside business, partly because it is considered unnecessary, and principally because he is not compelled to study in order to maintain his reputation. The diseases prevalent in his section of country are few in number, and the surgery amounts to practically nothing. He studies over carefully the class of cases liable to be met with, falls into a routine plan of treatment, and if any thing out of the usual line comes up, relies on his ability to cope with it fully as well, if not better, than any of his competitors, and this, apparently, is all the consolation he wants. His office equipment consists of a fair library and a few surgical instruments, half of which lay around and rust from neglect and disuse. The demand for surgical manipulations does not occur very often, and he soon loses interest in them, sometimes neglecting to perform an operation indicated because he has not the instruments at hand, and because he has grown unfamiliar with the details of the operation, even if he had the necessary instruments.

The trouble with this doctor is not the lack of preliminary education and natural talent, but his surroundings are such as to tempt him to become dilatory and careless after working up to a certain point, and too often yields to this temptation. He stands well and makes splendid advancement to a certain elevation, and then outside business and other influences wean him from his original aim at the top rung of the professional ladder. He recognizes that he is not making much advancement, and at times contemplates brightening up by attending some good college for a few months, but the loss of time from business, and the money that it will cost, stare him in the face, causing him to put it off

year after year, and finally the idea is abandoned altogether. Because he is considered the leading light of the profession in his community, and has the pull of the practice, gives him sufficient satisfaction to continue in the same old channel. He is not compelled to brighten up, and as a result does not do it. In such an instance the absence of necessity is the principal cause of inactivity.

This class of physicians are too apt to overlook their whole duty to the sick and injured, their minds, as a rule, being occupied by non-professional business, until the task of getting down to hard study on cases grows too irksome for continuance. They grow to old age, retire with a competency, honored and respected by every acquaintance, and, while they have been fairly good physicians in their day, they have not made the most of their opportunities in the science; they have allowed their love for the original object to grow indifferent mostly because they had things very much their own way, and were not compelled to keep the traces of the professional harness tightened all through the journey.

It is far from the desire of the writer to create the impression that all country physicians are guilty of this sin of procrastination, for here and there among them are found those who are striving continually with all their might, and their enviable accomplishments in after years furnish ample evidence of what many more could do if they would only labor hard enough, not beyond their ability, but simply do their best.

To be sure, in the country the opportunities for seeing all classes of cases, and witnessing different operations, are not nearly so good as in a large city, yet too many of the rural brethren allow this fact to act as a cooler to their ardor instead of arousing their ambition to seek and develop all possible opportunities for studying human infirmities.

Jealousy in the country plays no small part in hindering the advancement of medical science. It manifests itself in private practice, medical societies, and nearly every place the physician goes. It has a tendency to isolate good practitioners from each other, and prevents the friendly interchange of professional opinions. If reputable members of the profession would meet with each other on perfectly friendly terms, and discuss, in business-like manner, measures calculated to benefit all, the investment would pay a ten fold dividend, and furthermore if absolute necessities for increased professional zeal, work and interest could be created the advantage gained would prove vastly greater. There's plenty of latent talent among country doctors, and whatever will produce the general necessity for its development will shower a boundless blessing on both physicians and patients.

THE DISPOSAL OF SEWAGE OF ISOLATED COUNTRY HOUSES.*

BY WM. PAUL GERHARD, C. E., CONSULTING ENGINEER FOR SANITARY WORKS, NEW YORK CITY.

A serious and all-important problem presents itself to all builders or occupiers of suburban and country residences, not located within reach of sewers. I refer to the question what method should be adopted by architects or householders to get rid of the liquid wastes from the household in a manner calculated to avoid at once all nuisance to sight or smell, all danger to health arising from the pollution of the soil, the water and the air, and all causes of contamination of water courses, whether flowing streams, or ponds, lakes, estuaries and harbors. The problem is not at all a novel one, for nearly two thousand years ago Hippocrates discussed the same subject of the relation existing between health and soil, air and water, yet, if we contemplate, for a moment, the numberless filth-reeking and disease-breeding privies and barbarous leaching cesspools which we still encounter everywhere, and which apparently are accepted as necessary adjuncts to farm houses, summer residences, mechanics' dwellings, etc., we hope to be considered justified in again calling attention to the evil results of improper methods of sewage disposal, and in discussing briefly the proper remedies.

Let us begin with a consideration of the smaller farm houses, mechanics' cottages and laborers' dwellings. The crude methods usually adopted to get rid of all filth from these are the discharge of the liquids into some open ditch, or into some neighboring water-course, brook or pond, and the accumulation of the excreta in privy vaults. In other cases, slops are retained on the premises by pouring them directly in front of the kitchen window on to the surface of the ground, which is thus kept continuously wet, and quickly becomes saturated with filth, or else the liquid sewage is stored in leaching cesspools or poured into disused wells. It seems unnecessary to explain at length the disadvantages and dangers of privies, vaults and stagnant pools of slops, from a health point of view. The objections against them are well recognized, and hence such devices are now utterly condemned by all sanitarians as relics of primitive stages of civilization.

The proper disposal of the slop-water of such small houses is so easily accomplished wherever, as is almost always the case, a small vegetable garden, or lawn, or grapevine trellis, or an apple orchard adjoin the house, as to make us wonder why better methods than those indicated

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above are adopted as yet in comparatively rare instances. In all such cases the sewage may, with advantage, be used to feed plants and fruit trees, or to irrigate the soil. The ruling principle should be to keep solid and liquid waste matters, as much as possible, apart, for this will facilitate the disposal of both. The kitchen water, soap-suds from washing, chamber slops, urine, and other fouled water, are easily disposed of by a daily distribution in the garden, either by irrigation, or by subsurface irrigation. The slop-water should be collected every day in a tight tank and carried by hand, or carted in a wheelbarrow, to the garden, and there it should be used for watering plants, shrubbery and fruit trees, or for the cultivation of garden vegetables. Instead of by irrigation on the surface, the slop-water may be discharged into one or more lines of absorption drains, laid with open joints under the surface. For the smallest cottage fifty feet of absorption tiles are sufficient, and in proportion as the quantity of household sewage increases the amount of tiles should be increased. The principal points of importance are that the sewage be applied to the soil while *fresh* and before decomposition sets in; that it should be applied in moderate quantities only, to prevent oversaturation of the soil; that the sewage be applied on or near the surface of the soil, within reach of the oxidizing influence of the air and of the bacteria in the soil, and, finally, that the application be made intermittent, so as to give the soil, after each discharge, a chance to breathe, as it were, and to allow the finer solid particles to be oxidized and destroyed. An easy method of accomplishing the disposal of slop-water, where the house contains no plumbing fixtures, is to have near the house a hopper or receiver of wood or rustless iron, or, better, of earthenware, and provided with a strainer and a proper cover. From this a pipe may be carried underground to the absorption tiles, while the house sewage may be carried to and discharged into the hopper by means of a pail, thus sending rapidly a full volume of slops at proper intervals into the absorption tiles.

The solid excrements are taken care of in the case of small cottages quite as readily and inoffensively by adopting either an earth or an ash closet, in place of the usual privy, still so much *en vogue*, although long ago unanimously condemned by practical sanitarians. In the application of the dry earth system, sufficient dried earth, garden loam, or sometimes coal ashes are mixed with the excreta to absorb all foulness, to keep down all odor, and to prevent putrefaction. Such earth closets work quite satisfactorily with very little attention, and form a simple and cleanly substitute for the privy nuisance. They are manufactured in various grades, and with more or less complicated mechanism. As a rule, the simpler the arrangement, the better. If placed out of doors, the earth closet should not be located too far away from the house. The outer structure should be strong and substantial, with a good roof to protect it against rain or dampness. It should be well lighted, well ventilated, not too much exposed to

the rays of the sun, and preferably plastered on the inside as a protection in cold weather. A carefully kept dry walk should lead to it from the house, and it is better to have the walk and the closet shed screened from view and from the prevailing winds. The excreta should be received in a movable, well tarred wooden box, or else in a galvanized iron pail, not too large, and of such shape and construction that it can easily be handled. The box or pail should fit close up under the seat, and each time the closet is used, ashes or dry earth should be used as deodorizers, being thrown down either by a handscoop or by a mechanical apparatus. There can be scarcely any doubt about the economy, efficiency, and convenience of such apparatus in the case of small houses. The property of dry earth, of not only deodorizing, but also absorbing, and rendering harmless excreta of animals has long been well known. Some difficulty has been experienced in cases where the earth was kept too damp. According to recent observations a much smaller quantity of earth is required for earth closets, if the separation of the liquids and solids is at once effected. This may be accomplished by intercepting the urine under the seat, and removing it by a waste pipe. The closet is thereby more easily kept free from smell, and if properly used and well taken care of, it can be located in an extension of a dwelling without becoming a nuisance. The dry earth manure ought to be removed at frequent intervals, and in summer time it can be used and dug under the soil in the garden attached to the cottage. In winter time it may be dried in an out-house and can then be applied over and over again. Ashes are sometimes used in place of earth, or else finely powdered charcoal, which latter is a well known deodorizer. The latter can be applied with a mechanism similar to the one used in earth closets and it is claimed that only about one-fourth the quantity will be needed. As charcoal is rather expensive this is an important consideration. Some also claim that removal need not be so frequent in the case of charcoal closets, but this is, at best, a doubtful advantage.

In cottages, or suburban residences of somewhat more pretension, the earth closet is sometimes located, for convenience's sake, in an extension of the cottage, and it then usually becomes desirable to have also a somewhat more convenient method of disposal of the slop-water, which would avoid exposure of the housewife or servant to the inclemencies of the weather. This may be secured by arranging a properly ventilated and trapped waste-pipe—a pipe two inches in diameter is plenty large enough—to carry the waste from the kitchen sink, the laundry tub, and—wherever this is provided for—from the bathtub, into a small receiving tank, located outside of the house, and placed below the depth to which frost usually penetrates. This tank may be a plain wooden box, or an earthen or iron tank, or finally a tank built of brickwork. It may be emptied in the plainest kind of an arrangement by hand, or else it may be discharged by an automatic device, such as a siphon, a tumbler tank, or other mechan-

ical appliance. It may become useful, even in the case of small houses, to build some sort of a grease trap to prevent the grease from being discharged and finally clogging the small absorption pipes. It is, of course, assumed that the general topography of the lot is favorable to such an arrangement, in other words, that there is not a slope from the garden, or absorption field, toward the house, in which case disposal by gravity would become impossible. If the earth closet is placed inside of a dwelling the same precautions should be observed which are taken in the case of water-closets. The ventilation of the apartment is an important matter, and should receive careful attention. As a rule, it is better to locate an earth closet in an isolated or detached part of the cottage. While an earth closet is inferior to the best water-closet, I have no hesitation in pronouncing it, if well taken care of, superior to many water-closets *as usually arranged and kept*.

The question whether a farm house or laborer's small cottage should be provided at all with plumbing work, and above all, whether it is wise to have a water-closet indoors, which in turn requires a more or less complicated system of service pipes and a service cistern, is, more than anything else, one of convenience and comfort. The annoyance and cost of frequent repairs, and the difficulty in country districts of getting a mechanic to fix such apparatus when out of order, the danger of exposed pipes and traps freezing in mid-winter, or sometimes the lack of an abundance of water for flushing, or the necessity of raising it by hand-pumping—all these are considerations which may deter many from putting any plumbing work into their homes. It is undoubtedly much easier and less troublesome to deal with the sewage problem of cottages, if the strict separation of solids and liquids is adhered to. A water-closet in a house not only requires a larger discharge pipe than the two-inch waste-pipe for slop-water, but it complicates at once the whole arrangement. That it can be made quite safe, perfectly inodorous and inoffensive it is not necessary for me here to assert. Those who have followed the recent improvements in house drainage and plumbing work will know that it is possible to select a good water-closet and fit it up in such a way as to be in all respects satisfactory.* In points of cleanliness I think it certainly stands ahead of any other device. Its advantages are many, but its disadvantages under certain conditions ought not to be overlooked. If a water-closet is used in a cottage, the solids should not enter the outside tank for slop-water, for they would soon clog the siphon or the absorption tiles, but they should be intercepted in a settling chamber and frequently removed. How this may be done will be explained later on when detailed reference is made to larger country houses.

The proper disposal of the sewage of larger country or suburban residences, fitted up with all the usual plumbing appliances, is often, indeed

* See the author's various books on Plumbing and House Drainage.

in most cases, a much more puzzling problem. What shall be done with the more or less large daily volume of sewage of detached and isolated country houses, without creating a nuisance either on one's own premises or on those of the neighbors? This is a question of much interest to thousands of householders who live in the better class of country or suburban houses, and who are often compelled to meet the difficulties as best they can. The problem has long engaged the attention of civil engineers, who make a specialty of sanitary drainage, and while it is possible that the best solution has not yet been discovered, there are several methods which are in more or less successful use. Whatever method of disposal of the sewage may be adopted, it is obvious that one must decide about it before arranging the house drainage system inside of a house, for the best arrangement of the main drain and its branches in the cellar or basement of a house will depend upon the direction in which the sewage tank will be erected, or upon the location of the final outlet. Generally speaking, an isolated country house, not in reach of sewers, may dispose of its sewage by one or the other of the following methods:

1. It may discharge its sewage into an open surface ditch or gutter, removing everything from the house, and carrying the water into a more or less distant sink hole, or to some low spot where the sewage is allowed to soak away and to evaporate slowly. This method, based on the principle of "out of sight, out of mind," is a very primitive one, and one that has not a single feature of merit. As a rule, such a system becomes highly offensive to the immediate vicinity of the house.

2. The house drain may empty the sewage into a large open or leaching cesspool, allowing the liquids to ooze away through underground porous strata, or by fissures and cracks in the rock. This, although a very common method of disposal, is in reality one very dangerous to health, particularly so where the water supply is local, being derived from a well, a cistern or a spring on the premises. It is a method utterly to be condemned as both unsafe and nasty.

The most primitive form of cesspool is a hole dug in the ground, into which all the sewage is continually poured, the result expected being that at least the liquids will soak away through unknown underground recesses, and disappear. Occasionally the sides of such a cesspool are lined with loose stones, laid dry, the liquid sewage escaping at the numerous open joints into the surrounding soil, while more or less of the solid matter and grease are retained in the cesspool, undergoing at once a very dangerous process of decomposition, in the presence of moisture, heat and darkness—all conditions known to be particularly favorable to the growth of dangerous bacteria or germs of disease. In dealing with sewage, a cardinal principle, always to be observed, is to avoid all stagnation. In the leaching cesspool we have the worst possible example of stagnation and of accumulation of putrefying filth on our premises. The great objection to

a leaching cesspool is not only that it constitutes in itself an abominable nuisance, comparable to a powder magazine, which merely needs a single spark to create destruction, but that it unavoidably and invariably pollutes the subsoil in the neighborhood of dwellings, contaminates the water supply, and renders the air which we breathe obnoxious by its exhalations. If we consider for a moment that such isolated country dwellings and farm houses, which are not in reach of sewers, also do not usually enjoy the benefit of a public water supply, but must derive their potable water from wells, cisterns or springs on the premises, the full extent of the evil and the force of our objections become more apparent. It is, indeed, of the utmost importance that the local water supply of isolated dwellings be kept as clear and free from contamination as possible; but even supposing that water is introduced from a street or public supply, the enormous evils of soil pollution and air contamination remain. Two thousand years ago an old philosopher, Hippocrates, preached a sanitary formula, which has not been improved up to the present day. Recognizing the dangers to health resulting from neglect of sanitary precautions, he expressed his advice in the words, "pure air, pure water, and a pure soil." What, then shall we say if some of our best architects of the present day persist in suggesting as the most convenient and ready means of getting rid of the sewage of a country house the adoption of a leaching cesspool?

I admit that in sparsely populated country districts a leaching cesspool, located at a great distance from, and at a lower level than the house, may sometimes be used without causing any harm to the occupants of the house. As a matter of principle, however, sanitary science must condemn such devices in every case. If the principle is true that we should speedily return all organic dirt and filth to the earth, it should be carried out in such a manner that the soil may accomplish the complete destruction of organic filth. We shall see, further on, that this can be done only near the surface of the soil, and by application of the sewage before it becomes putrid.

In pouring our sewage into leaching cesspools, on the contrary, we bury all matter deep in the ground, remote from the cleansing, oxidizing effects of the atmosphere, of the purifying action of plant life, and of the help which is rendered by some of the low organisms, or so-called bacteria, in the process of nitrification and destruction of organic matter.

Then, again, another important consideration should not be lost sight of, namely, that often where a leaching cesspool can not work any danger to our own house, our own well or spring, it may pollute shallow or deep wells belonging to adjoining estates. It is, therefore, evident that as habitations are grouped closely together, leaching cesspools become more and more inadmissible. If we are selfish enough to locate such a cesspool in the remotest and lowest corner of our own garden, entirely for-

getful of its immediate proximity to our neighbor's drinking-water well, it is but perfectly proper that our health authorities should remind us that we have some obligations to fulfill towards our neighbors.

Occasionally such cesspools are built with the sides cemented up, leaving only the bottom loose for the escape of sewage, or in cases where they are originally open on the sides, the pores soon clog, and the removal of the liquid then takes place in a still more imperfect manner.

3. The house drain may deliver the sewage into a tightly built cesspool, provided with an overflow pipe carried into some ditch or watercourse. Such an arrangement may be considered a direct outcome of the leaching cesspool. Desiring to avoid the pollution of the soil, the architect or owner built the cesspool with tight sides and bottom, but finding that it would rapidly fill up, and that frequent pumping out would be expensive, an overflow was taken from the cesspool and the surplus of liquid sewage carried away. While such a tight cesspool with overflow located far away from the house, and with the overflow carried into some large volume of rapidly flowing water, may be unobjectionable where but little water is used in a house, the arrangement constitutes in the case of larger houses a fearful nuisance, for the sewage is already putrid when removed.

4. The alternative is to empty the sewage into a cesspool built absolutely tight and without overflow. Such a cesspool avoids the pollution of the water supply, and also the contamination of the subsoil. It is, therefore, an arrangement much to be preferred to a leaching cesspool, and one which is permissible under certain circumstances. Perhaps I should rather call it a sometimes necessary evil, for it should be borne in mind that it involves a long temporary storage of sewage, and does not effect its immediate or nearly immediate disposal. Hence it can not be approved from a sanitary point of view, and its objections are many and serious ones. Since it is the object of all good drainage to get rid of filth from the premises at once, or else to dispose of it on the premises while *fresh*, so as to be completely taken up by vegetation and purified by the soil, it is evident that a vast receptacle of accumulated filth can not be considered a sanitary device. The stagnated sewage within the walls of the cesspool undergoes a process of decomposition, and the gases generated are extremely unwholesome, often causing, by improper escape, or by entrance into houses through the sewer pipes, a nuisance. To ventilate such a cesspool successfully is rather a difficult and often an impossible matter.

To overcome some of these objections, it is the habit of some architects to use two cesspools for a single house, delivering into the one all water-closet wastes, while the other one is intended for the reception of kitchen and laundry water. I do not approve of such an arrangement. Practically, it is found that after awhile both cesspools do not differ materially

as regards the degree of putrefaction and offensiveness of their contents; nor can I see any sense in duplicating or multiplying the dangers which adhere to all cesspool arrangements.

There are, however, some cases where no good feasible way of dealing with sewage may be devised other than to run it into a tight cesspool. In that case, the following precautions are to be observed: The cesspool should be located as far away from the house as possible, and there should be proper disconnection between the house and the cesspool. The latter should be built in two compartments, the first of which constitutes an intercepting chamber for the solids, while the second and larger chamber will receive the liquids. Both chambers should be built thoroughly tight, of hard-burned brick, laid in hydraulic cement, preferably of a circular shape, and the walls should be well rendered inside and outside with Portland cement. Each chamber should be arched over and topped with a manhole, covered with a tight iron cover. The cesspool should be as well ventilated as it is possible to do, and it should be emptied, cleaned and disinfected at frequent intervals. The separation of the liquid from the solid matter facilitates much the disposal of both. The liquids may be bailed, or better, pumped out, and used to sprinkle and irrigate the lawn, or kitchen garden, shrubbery, vine trellis or apple orchard. The solids should be removed and dug as fertilizers under the soil. The oftener this is done the better, and the less offense will be caused by the application of sewage to land.

Some objections to a cesspool always remain. If it is built, as it should be, *absolutely* tight, and of moderate size only, to avoid the retention of too large a volume of sewage, then the necessity of frequent pumping arises, and with it the annoyance of constant attention and of manual labor. If we enlarge the dimensions of the cesspool to avoid the frequency of pumping out, we increase the dangers always resulting from stagnant sewage, and create, as it were, a large gasometer for noxious gases.

5. If a stream of running water, either a brook, river, canal or tidal estuary is available, at not too great a distance, a single house may sometimes discharge its sewage into it, trusting to the dilution of the sewage and to the self-purification of the stream to render the sewage innocuous. This method, simple and convenient as it may appear, can not be regarded as permissible in all cases. It is a method which, especially if the current is not rapid, and the volume of the water in the stream not large, may cause serious annoyance and offense, and hence must be condemned as crude and imperfect; for, by pouring the filth into the nearest water course, we simply remove the evil from one place to another, without attempting to abate the nuisance. Again, it should be remembered, that what may be feasible and unobjectionable for a single house, is not practicable in the case of a number of adjoining isolated country houses. The pollution of creeks, rivers and streams must be avoided, especially of those water courses serving as a source of supply of potable water for

villages and towns located along the banks of these streams, and from which canal boats or river craft draw their drinking and cooking water. Riparian dwellers always suffer by direct discharge of unpurified sewage into water courses. The watering of cattle, and washing and bathing in the river are thereby often rendered impossible; while more or less damage is done to fish culture, particularly where the sewage is discharged in a putrid condition. While it is a well-known fact that some kinds of fish feed on *fresh* sewage matter, others, particularly salmon and trout, appear to be very delicate, and usually suffer from the pollution of streams.

Channels with tidal flow, finally, should not receive sewage, for much of the solid matter discharged into them will repeatedly float up and down with the ebb and flow of the tide, instead of being at once and forever removed. Offensive odors pervade the air, particularly in the vicinity of the sewer outfall, the banks will become defiled, the river beds silt up, and the channels gradually become obstructed.

6. Houses located at or near the seashore have, sometimes, no other available outlet for the discharge of their sewage than the ocean; but, although at first blush a ready means of getting rid of sewage, such a discharge is seldom permissible. Experience has demonstrated the unpleasant fact that floating sewage matter, discharged into the sea, may return to the shore with the tide, or through the action of eddies, currents, winds and waves. The sandy beaches become polluted, and the damage inflicted may seriously interfere with the use of the beach for bathing or recreation purposes. The direct discharge into the sea is only practicable where the sewage outfall from houses on the cliffs or near the beach is carried far out into deep water, and all sewage matter carried away by some strong currents setting in at right angles to the sewage outfall, or about parallel to the line of the beach.

7. It is obvious, therefore, that in the majority of instances, house sewage cannot be directly admitted into water courses or streams of any kind, nor into the sea, without creating a nuisance to sight, smell, or a danger to health. As far as practicable it should first be *purified* by removing the suspended impurities, and at least a part of the matters in solution. The purification may be effected by various methods, such as artificial filtration, chemical treatment, or by the application of sewage to land. After being purified by mechanical or chemical processes, sewage can sometimes be admitted directly into streams, in other cases, however, it becomes desirable that it be further purified or utilized on land.

I shall not stop to consider the question of artificial filter-beds, for, to my knowledge, such a system has never been used in the United States, in connection with the sewage from houses. I desire only to refer to a very ingenious mechanical filter, invented in England, and recently introduced into this country. It is known as the Farquhar-Oldham filter. The chief characteristic of this machine is the revolving cutter, which is

so arranged that whenever the surface of the filtering medium clogs up with sewage sludge, it can be removed by said cutter in a few moments, whereby practically a new filter is established. This operation may be repeated as often as found necessary. While I have not personally made use of this filter for purifying the sewage from isolated country houses, I understand that it is, or has been, in successful use at a country house at Seabright, New Jersey, and elsewhere. Wherever no system of sewage purification by application to land is possible, I believe this method will form a successful solution of the problem, although many will hesitate to adopt it, owing to its cost. The best filtering material for such apparatus is sawdust, which, when removed and dried, can be readily utilized to fire up the boilers needed for the sewage pumps.

8. Sewage from isolated country houses may be purified on the premises by chemical treatment. By this method the suspended and a part of the dissolved impurities are precipitated by means of chemicals. Quite a large number of chemical processes have been invented, but none of them have attained any very extensive use. One of the most common processes consists in the addition of milk of lime to sewage. Much more effective than this are solutions of sulphate of alumina, or of perchloride of iron. Such chemical precipitation, while not accomplishing a very thorough purification, removes the impurities to such an extent as to permit a discharge into a tidal river or a large stream. Occasionally, however, as stated above, the clarified liquid is applied to land for further purification.

In selecting a precipitant, preference should be given to one which accomplishes the process of subsidence with rapidity; at the same time it should be remembered that the precipitant used should produce a sludge of minimum bulk with maximum amount of solid impurities. In both respects, milk of lime is inferior to the other chemicals mentioned above.

A difficulty adhering to all chemical precipitation processes is the disposal of the sewage sludge. It usually contains, after precipitation, from 40 to 95 per cent. of water, and unless the latter is removed it soon decomposes and becomes offensive. It has been suggested to evaporate this water by artificial heat, but such a process is expensive. Others have proposed the separation of the liquid matter from the solid in centrifugal machines. In some instances sludge is pumped directly from the precipitation tanks to land, where it is left exposed to the air, and when comparatively dry is dug into the ground. In some patented processes, such chemicals are added as enable the manufacture of brick or of cement from the sludge. More recently, powerful filter-presses have been used, which offer great advantages. By means of these the sludge is quickly pressed into cakes, which may be sold as manure to farmers, and not being bulky, enable a better transportation for long distances.

Chemical treatment must sometimes be adopted where land is not available for purification purposes, or where its high price precludes any effort to obtain an area sufficiently large for irrigation. It may, at times, become necessary to resort to it, where the soil is underlaid with rocks. Again, chemical precipitation may be combined with the application of sewage to land, in which case a much smaller irrigation or filtration area is sufficient. But all this refers more to the sewage from large institutions or from villages or towns.

Chemical treatment is not well adapted to single or isolated dwellings. The process implies the construction of tanks, the provision of suitable chemicals, the careful and thorough mixing of the sewage with the chemicals, all of which calls for considerable expense. Apart from this consideration, such a manipulation of sewage is not desirable on the premises, or in the vicinity of dwelling houses.

It may be stated in general, that whatever the chemical treatment may be, it will be wise not to have too much faith in the realization of a large commercial profit from the sewage treatment. Far better to make the ultimate purification of the sewage the chief end in view. It is also well to remember that in certain chemical processes the effluent water is of such a character that, if discharged into brooks or rivers, it may kill fish and cause an injury to fish culture. Chloride of lime is particularly objectionable. Sulphurous and hydro-chloric acids are also said to be very hurtful.

9. Wherever a sufficient area of land is available, and where the layout of the land and the character of the soil are favorable, sewage may be disposed of and purified on the premises by applying it to the land. Generally speaking, the application of sewage to land forms the best solution of the problem of sewage disposal. Not that it enables us to derive much profit from its utilization—this should always be a secondary consideration, in the case of larger institutions or towns not less than in the case of single houses—but by applying sewage to land it is always possible to effect its purification to such an extent as to avoid the usual fouling of surface or subterranean water courses. While chemical precipitation and mechanical filtration may be considered *artificial* processes, the purification of sewage by the soil is a natural process, completing one of the constant rounds or circulations going on in Nature. The water on the globe furnishes an example of such a circulation going on forever. Arising as a vapor from the ocean, and from large exposed surfaces of flowing water, it is carried along in the upper strata of the atmosphere by currents of air, and forms clouds, from which it is again precipitated upon the surface of the earth in the form of rain, snow, hail, or dew. A part of this storm water is immediately evaporated and returns to the clouds, another part flows off on the surface forming successively springs, brooks, rivers, streams—all flowing toward the great ocean, while a third part soaks into the ground,

and is partially absorbed by vegetation, and partly forms underground streams of water with an inclination toward some stream, or else forms springs, which finally come out at the surface.

Another example of a constant round in Nature is afforded by the circulation going on between animal and vegetable life. Plants are nourished, and grow upon decomposed animal matter, effecting a change of those substances which might become dangerous to animal life, into harmless food substances for the roots of plants. The same plants, perhaps, form the nourishment for man and animals, and are again discarded to feed vegetation.

The whole process of water circulation has never been better described than in the words of Mr. F. O. Ward, at the General Congress of Hygiene, at Brussels, in 1856. These words, quoted by Mr. Edwin Chadwick, the Nestor of sanitary science in England, in an address on "Circulation or Stagnation," are as follows:

"The water which falls on the hills in a state of purity undergoes a natural process of filtration through sand, enters the rural collecting pipes, and passing through the aqueduct to the metropolitan distribution pipes, finds its way to every story of every house in the town; whence again, after having supplied the wants of the inhabitants, it runs off, enriched with fertilizing matter, which it carries away before allowing it time to ferment. This manure, driven along irrigation pipes, is deposited in the soil, leaving the water to pass into drainage pipes, and flow on to the rivers. The rivers conduct it to the ocean, where it rises as vapor under the heat of the sun; to redescend as rain on the hills, enter again the collection pipes, and recommence its vast and useful course of circulation."

Let us return now to the consideration of the application of sewage from isolated country houses to land. The conditions of successful application are a sufficiently large area of suitable, absorbent, well aerated, properly prepared and thoroughly under drained soil. I should, perhaps, add to these a few other conditions, namely, the proper and judicious management, careful and equal distribution, and, before all, the *intermittent* application of sewage to the soil, which latter is so needed to insure its aëration.

The land selected for the purification of the sewage should not be located too near a dwelling. In particular, if wells are used, it should be kept at a safe distance from them, the exact distance depending not so much on the configuration or slope of the surface as upon the inclination of the underground geological formation and strata.

We may distinguish several systems, namely, broad sewage irrigation, intermittent downward filtration and sub-surface irrigation. The Report of the Royal Commission on Metropolitan Sewage Discharge, published in 1884, defines broad irrigation as "the distribution of sewage over a large surface of ordinary agricultural ground, having in view a maximum growth of vegetation, consistent with due purification, for the amount of

sewage supplied." The same report speaks of intermittent downward filtration as "the concentration of sewage at short intervals on an area of especially chosen porous ground, as small as will absorb and retain it, not excluding vegetation, but making the produce of secondary importance." In the first system, the sewage flows principally *over* the land, in the latter system it passes *through* the land. Sub-surface irrigation is a modification of the filtration system, in which the sewage is distributed in a network of tile pipes, close under the surface of the ground, whereby all offense to sight or smell is at once overcome. It is obvious that this is an important consideration wherever sewage irrigation is to be practiced close to a dwelling-house.

Broad irrigation requires very large areas as land. The land must not be continuously flooded, so that in order to manage an irrigation farm successfully it is at least advisable to have pieces of fallow land, and to distribute the sewage on different portions on alternating days. By passing sewage through a properly prepared filtration area we are enabled to effect the purification of a much larger volume, provided we maintain an intermittent discharge, so as to secure thorough aëration.

In all methods of application of sewage of land, it is advisable to intercept at least the coarser suspended organic matters contained in sewage, which should be dealt with separately. The irrigation field must in all cases be properly and thoroughly under drained. The preparation of the surface of the land should be simple and inexpensive, and must depend somewhat on the general topography of the field, as well as upon the kind of vegetation which it is intended to raise from sewage. It is important that the sewage be distributed evenly and in as fresh condition as possible. Much the best plan to secure an intermittent discharge and to avoid an irregular and trickling flow is to collect the sewage from the house in a self-acting flush-tank. Wherever possible the sewage should be conveyed to the latter by gravitation, and the location of the irrigation field should be selected accordingly. Occasionally, however, pumping becomes a necessity, and this may be accomplished either by some form of steam pump, or by a gas or hot air engine, or by a windmill.

I shall, hereafter, dwell more at length upon the sub-surface irrigation system, and shall explain some of its details, because I regard it as the best available system for the disposal of liquid and semi-liquid wastes of isolated country houses. Before doing so it may be well to sum up what I have said about the methods available for disposing of sewage of isolated country houses.

Such houses as are not in reach of sewers can dispose of their liquid sewage in some cases by direct discharge into a stream (taking this word in its widest significance) or into the sea. As a rule, however, it is absolutely necessary, and vastly better, to adopt some system of purification on the premises. Of systems of sewage purification, application to the

soil is preferable to mechanical filtration, or to chemical precipitation. The latter methods should only be resorted to where no land suitable for disposal is obtainable. Of the methods of applying sewage to land, broad irrigation is least favorable, as it requires a large area of land, and in cases where the field is located close to the house, it becomes objectionable. Intermittent downward filtration, while requiring a much smaller surface, is yet open to the second objection made to surface irrigation. Far preferable, for single houses and isolated institutions, is the sub-surface irrigation system. Leaching cesspools are absolutely inadmissible, and the same is generally true of tight cesspools with overflows into a ditch or water-course. In a few cases it may be necessary to adopt a perfectly tight cesspool without overflow, and to pump the liquid out at frequent intervals, distributing it on the land. This alternative should be resorted to only where all other methods prove objectionable or impracticable.

In the following I shall dwell more at length upon the *disposal of sewage by sub-surface irrigation*, for, in my judgment, this is the most available system for the disposal of liquid and semi-liquid wastes of isolated country houses. The system has long ago attracted public attention, and has, in recent years, been taken up by the foremost sanitary engineers, for more than any other method, it promises the entirely successful solution of the problem of sewage disposal for isolated houses. It certainly recommends itself, owing to the peculiar facilities for disposing of sewage *without creating an offense to sight or smell*, for it is only too well known that open or surface irrigation becomes, in many cases, exceedingly objectionable in close contiguity to mansions or dwellings.

The origin of the sub-surface irrigation system is usually attributed to the Rev. Henry Moule, Vicar of Fordington, the inventor of the earth-closet. He looked upon it as the best solution of the slop-water disposal question for cottages which adopted the earth-closet system. But according to Mr. Edwin Chadwick, sub-surface irrigation had previously been tried, independently and systematically, on a large scale, by M. Charpentier, a French vine-grower, near Bordeaux. Mr. Chadwick states that the results which the latter obtained with vines and fruits, as well as with market-garden produce, were most satisfactory. The system would probably never have grown to its present popularity had it not been for Mr. Rogers Field, Mem. Inst. C. E., who, recognizing the desirability of intermittent action, invented his automatic flush-tank, which he applied successfully to the disposal of liquid household wastes. His first experiments were made at some laborers' cottages, belonging to his own estate at Sheffield, in Essex. Since then the system has been adapted to all possible conditions, and has given such satisfaction that it is now considered admirably suited to isolated houses not in reach of a sewer, but

having sufficient porous or well-drained ground about them, with favorable lay of the land. Col. Geo. E. Waring, Jr., was the first to try the system in this country, about fifteen years ago. Finding that it worked satisfactory in the case of his own residence in Newport, R. I., then not in reach of a sewer, he adopted it afterwards with success for the disposal of sewage of cottages and suburban residences, and on a larger scale for the purification of sewage at the women's reformatory prison at Sherburne, Mass., the Keystone Hotel, at Bryn Mawr, Pa., and at Lenox, Mass., for the sewage of the whole village. Since a number of years the system has been extensively applied by many sanitary and landscape engineers, and by a few progressive architects, for the disposal of sewage from isolated country houses or institutions not within reach of sewers, but liberally supplied with water and plumbing appliances.

The system is based upon the well-known fact that the aerated layers of soil *next to the surface*, the sub-surface as it were, possess in a high degree the power of destroying organic substances buried in them, by nitrification and oxidation, aided during a part of the year by vegetation, and assisted at all times by minute organisms or bacteria. The latter play an important part in the round of changes in Nature. "They are," says Tyndall, "by no means purely useless or purely mischievous in the economy of nature. They are only noxious when out of their proper place. *They exercise a useful and valuable function as the burners and consumers of dead matter, animal and vegetable*, reducing such matter with a rapidity otherwise unattainable to innocent carbonic acid and water. Furthermore, they are not all alike, and it is only restricted classes of them that are really dangerous to man. One difference in their habits is worthy of special reference here. Air, or rather the oxygen of the air, which is absolutely necessary to the support of the bacteria of putrefaction, is, according to Pasteur, absolutely deadly to the vibrios which provoke butyric acid fermentation."

I lay particular stress upon the importance of distributing the sewage close to the surface of the soil, at a depth not exceeding 10 or 12 inches. Aeration is a *conditio sine qua non* of the whole system. At greater depths oxidation and purification become very much slower, until they finally cease altogether. The *subsoil* is not able to effect a complete purification of sewage, as the oxidizing influence of the atmosphere does not so freely reach it. It is the layer of earth next to the surface, the *sub-surface*, which acts on the sewage. Hence the name of the system is derived, and it is an error, committed quite frequently, and to which I have more than once called attention, to call the system "subsoil" irrigation.

We see, then, that only where sewage is distributed close to the surface, where sufficient oxygen attaches to the particles of the soil, are the organic matters in it taken up as nourishment by the roots of plants, and reduced or destroyed by the bacteria in the soil. The liquid sewage, freed of its

coarser impurities, soaks away into the porous ground, and thus becomes still more clarified by filtration, so that when removed by deep under-drains, it is generally found to be quite clear, colorless, free of taste or smell. By arranging an *intermittent* discharge, the upper layers of the soil are enabled to take up oxygen during intervals between discharges, and to prepare for the next volume of sewage, while the ground is prevented from becoming saturated, wet and swampy.

There is a radical difference between such a system and a loose or leaching cesspool. With the latter the area of soil used for purification is quite small as compared with the former, where the surface can be chosen in proportion to the amount of sewage to be disposed of, which is not a feasible thing to do with a cesspool. We all know that even in the case of a leaching cesspool, newly built and first put to use, some purification of the sewage which oozes out at its pores is accomplished by straining and filtration. After some use, however, its pores clog up, and the soil around the cesspool becomes saturated with sewage matter, undergoing, in the absence of oxygen, a very slow process of decomposition. The sewage soaks away unpurified, polluting springs and wells, and the unwholesome gases generated taint the ground air, and, being given off at the surface, frequently enter our houses. It is for these reasons that all sanitarians look upon a leaching cesspool as a nuisance and a standing danger to health.

Briefly described, the sub-surface irrigation system consists of two parts: *First*—An absolutely tight receptacle, or sewage tank for liquid household wastes, including the contents of water-closets. *Second*—A net work of common distribution drain tiles, laid a few inches below the surface of the ground, with *open joints*, so as to permit the liquid to ooze out at numerous points. This network of pipes, buried in the ground, constitutes the irrigation field.

As stated heretofore, it is an important condition to insure the successful working of the system, that the discharge of sewage from the sewage tank to the irrigation field be *intermittent*, and that, instead of a constant, dribbling stream from the tank, there be a powerful rush of sewage in a large volume, so as to secure an even distribution and the perfect filling up of all pipes. It is, to say the least, desirable that the discharge should not occur more frequently than *once a day*, that is, every twenty-four hours, and the size of the tank should be governed hereby.

The soil of the field should, preferably, be gravelly and porous. All tight clay soils, and ground liable to dampness, should be properly under-drained by deep land drains. The sub-irrigation field should not be located too near a house, wherever there is abundance of land favorably located, permitting the sewage to flow away by gravity. As a matter of precaution, it is well that some attention be paid, in locating the irrigation field, to the direction of the prevailing winds, although as a matter of fact, a properly working irrigation field is quite inodorous. So much

is this the case that the tiles may be, and in practice often are, laid under the well-kept lawns adjoining summer residences, without ever causing an offense. Another precaution to be observed where the water supply of a country house is derived from wells or springs, is, that the field should not be located near them.

The preparation of the sub-surface of the field is accomplished in the following manner: Common, unglazed agricultural tiles, two inches inside diameter and one foot in length, are laid eight or ten inches below the surface on continuous boards, or, better, in gutters of earthenware, laid accurately in the trenches at the uniform grade required. Should the tiles ever clog up, it thus becomes an easy task to take them up, to clean them and to relay them in the gutters, an operation readily performed by a common laborer. It is quite important that there should be between the tiles at each joint, a space of about one-quarter inch to facilitate the oozing out of the sewage. Small earthen caps about three inches long are placed over the ends of tiles at each joint to protect it from dirt or earth falling from above. It is not necessary to give the absorption tiles a greater fall than about two or three inches per 100 feet, for if laid at too steep a grade the sewage would rush to the lowest level, and saturate that part of the irrigation field. It should be noted that much of the success of the system depends upon the accuracy with which the distribution tiles are laid. They should branch out from the bottom of the main carrying conduit, and special T or Y branches are manufactured for this purpose. The main drain should be laid at least two feet deep, and the two-inch branches should be cemented until they strike the proper depth of eight or ten inches. The main drain conducting the sewage from the flush-tank to the irrigation field should be four inches in diameter, except in the case of large institutions, when the size of the flush-tank often requires a six-inch main conduit. It can be laid with as much fall as the layout of the land will require, but when it approaches the absorption field its fall should be limited to four or six inches in 100 feet, to prevent the sewage from running to the lower part of the field, overcharging the lower lines of drains. The distance between the lines should average about five feet. The ramification and the general layout of the lines will depend on the contour lines of the land. In the case of level ground the lines may be parallel to each other.

The number of feet of tiles which it is necessary to lay will depend upon the quantity of sewage delivered each day. It will vary, moreover, for like quantities of sewage, with the general character and porosity of the soil of the absorption field. Wherever the soil consists of a heavy clay, or is liable to be wet or swampy, it is absolutely necessary to thoroughly under-drain the field by a complete system of agricultural tiles, laid at a depth of from four to five feet, removing and discharging the purified sewage as well as any excess of soil moisture.

The flush-tank is usually built of hard-burnt brick, laid in hydraulic cement mortar, and made perfectly water tight.

An important and most necessary precaution to prevent the clogging of the siphon, which empties the tank, or of the distribution tiles, is to build in connection with the flush-tank, and between the house and the latter, an intercepting chamber or grease trap, intended to intercept all solids, undissolved paper and fatty waste matters from the kitchen. Such a chamber is, in a certain sense, a cesspool, although it differs from the ordinary objectionable device of this kind in having its liquid contents frequently changed, and in being built of small size. Its emptying and cleaning must, of course, by no means be neglected. Much of the solid matters and papers, etc., is reduced by maceration and decomposition, and flows dissolved by water into the liquid sewage chamber. The overflow pipe connecting both chambers must dip well below the surface of the water level in the first chamber to prevent scum or grease from over-flowing into the flush-tank. The flush-tank proper should, generally, be built circular in shape, and of a size to hold one day's volume of sewage. The liquid wastes from the household are retained in this tank until it is filled, when its whole contents are suddenly delivered into the main drain, and thence into the irrigation tiles, whereby all the rows of tiles are *uniformly* charged, and the whole of the absorption field is brought into use each time the tank is emptied. If the sewage is discharged suddenly in a large volume, it oozes out, not only at the bottom, but also at the sides and top of each joint. The purification begins at once. The clarified liquid soaks into the ground, the impurities being retained by the earth, where they are quickly destroyed. Air enters the pores of the soil and prepares it for future use, while the tank is gradually filling for the next discharge

The interval required between two consecutive discharges, the exact proportion between capacity of tank and size of house, between size of tank and number of feet of drain tiles, etc., are details requiring judgment, skill and experience, which must be left to be determined in each individual case separately.

To discharge the flush-tank, recourse may be had to various mechanical appliances. The simplest arrangement, but one that requires daily attendance and some manual labor, is to place a gate valve at the outlet pipe leading from the bottom of the tank, which valve is opened or closed by hand whenever the tank becomes filled. This arrangement may answer for smaller country houses, in which the amount of water used is limited, being usually pumped into the house tank by hand. An *automatic* device is preferable in many respects. This may be either a tumbler or tilting tank, or one of several siphon devices now in the market. I have, so far, found none better nor cheaper than the annular siphon, as devised

by Mr. Rogers Field, C. E. If space would permit, I should illustrate and describe the manner in which I usually arrange it, but this is not possible, and I must refer my readers to my illustrated book, "The Disposal of Household Wastes."

My description of the system of sewage disposal by sub-surface irrigation is, I trust, sufficiently definite to give a correct general idea of it. Having spoken so much in its favor, it is but proper that I should notice and mention the objections, which are, at times, brought forward both by professional and by laymen against the system.

1. It is sometimes feared that the land into which sewage is continually poured, will, after some years, become saturated with sewage, its surface wet or swampy, and the whole of the irrigation field a large cesspool, spread out laterally instead of downward. There is, however, absolutely no reason for apprehending such trouble. Wherever the soil is not naturally loose and porous, *under drainage* is essential and must be provided for. If properly carried out, all superfluous moisture in the ground will be removed. *Aëration* is another essential condition, and wherever it is neglected the soil may become saturated with sewage matters. Finally, *intermittency of discharge* is required, with intervals of at least twenty-four hours between consecutive emptyings of the flush-tank. Under drainage of the soil and intermittent action of the flush-tank secure the much desired aëration of the sub-surface. This secured, oxidation and nitrification, and the destruction of the organic particles attaching to the earth will follow with regularity.

2. Much apprehension is often felt lest such a system will not work properly in winter time, and fear is expressed about the freezing up of the ground about the absorption tiles. Experience with the system in the coldest parts of the New England States has fully removed any doubts on this point. Where the system has been in continuous use, summer and winter, it is found by practical experience that the warmth of the sewage is sufficient to keep the ground at the disposal field from freezing.

3. It is often objected that the necessary intercepting chamber for solids is in reality a cesspool. This is true to some extent; nevertheless, I always advise to build this chamber in connection with the flush-tank, but I use the utmost precaution in its construction to make it perfectly tight. As regards this intercepting chamber, it should be remembered that the liquid sewage in it is constantly changed, for a large volume of water passes through it every day. Although the chamber retains organic waste matter partially putrefied, the amount can not be compared with that in a cesspool. Some of the solid matter is undoubtedly reduced by maceration, and being dissolved, passes into the liquid chamber, from where it is discharged into the absorption drains, to be finally oxidized

and rendered innocuous. By cleaning the intercepting chamber once a month, the amount of solid putrid matter may be kept down to a minimum; consequently there will be little if any exhalation of gases of putrefaction, and inasmuch as the water level remains constant—the intercepting chamber being always filled to the overflow level—gases are not forced out as in the case of ordinary cesspools. By means of proper ventilation the intercepting chamber may be kept quite free from offense.

Perhaps I should mention here that owing to these objections attempts have repeatedly been made to do away with the intercepting chamber. But in all cases where water-closets are used and their contents discharged into the tank, it becomes imperative to prevent the solid portions of the sewage from clogging the tiles, and the siphon which discharges the flush-tank.

I well remember an attempt made some years ago to do entirely without intercepting chamber by simply surrounding the siphon (a Field annular siphon) with a double cylindrical wire screen of both coarse and fine mesh. In less than six months the tiles were entirely choked. The only alternative would seem to be to strain the solids.

English sanitary engineers, among them such well-known authorities as Mr. Rogers Field and Mr. Wm. Eassie, prefer a straining chamber. To quote Mr. Field: "The distinguishing feature of this arrangement is that there is no tank or depression for the sewage to collect in, but that the bottom of the chamber is on the same level as the bottom of the drain, so that liquid sewage passes through the chamber without any obstruction. The interception of the solids is effected by two strainers, which consist of small iron rods fixed in an iron frame, and so arranged as to be movable. The bottom of the chamber is constructed of concrete, smoothly cemented and rounded, so as to form a sort of channel for the passage of the liquid, and to enable the solids to be more readily cleaned out. This bottom also has a rapid fall from the inlet to the outlet, which still further facilitates the rapid passage of the liquid. The sides are usually formed of brick-work, and the whole is covered by a light wooden lid, opening on a hinge." With such an arrangement a man can easily remove the solids by scraping them up by means of a hoe over the edge and mixing them with dry earth. To prevent such a chamber from becoming offensive, the solids should be removed daily.

A different arrangement from the above, which has also been repeatedly suggested, is that of having in a straining chamber a perforated pail or movable iron basket, which intercepts all the solids and which must be emptied and cleaned every day.

Of the two devices, the plain strainer appears to me to be far preferable. Personally, I have not yet tried either of the arrangements described. I should be willing to substitute the straining chamber for the intercepting

chamber if I could rely explicitly upon *daily* removal.* The trouble involved is not large, it is true, but servants are proverbially neglectful, and the arrangement suggested certainly robs the system of one of its best features, namely, that of being automatic. If daily attendance is required, it might be just as well to require the help to empty the sewage tank daily by opening a gate-valve, and thus do away with every kind of automatic siphon or other device, while retaining the features of intermittent discharge, and of a discharge of a large volume suddenly distributed over the whole of the irrigation field.

4. Owners of country residences find an objection to the system in the necessity of frequent emptying of the intercepting chamber just referred to, which, they claim, causes more or less of a nuisance. As an answer to this objection, I would say that of the two evils of cleaning out a large, ordinary open cesspool and the comparatively speaking small intercepting chamber, the latter is far preferable. But in doing so I probably overlook the fact that the same people who raise such an objection would probably never see to it that their large cesspool is cleaned, paying no attention to it as long as the sewage runs off, no matter where to.

5. It is sometimes objected that the tiles will choke and must be taken up and relaid. I can not deny the possibility of such an occurrence, although this may only become necessary about every three years on the average. They will choke sooner if they lack the cleansing effect of a flush delivered at intervals from the sewage tank. Even supposing for a moment that the tiles would have to be cleaned and relaid every year, how little amount of labor, trouble and expense is involved in doing so, owing to their being laid in permanent gutters and close to the surface. Compare this with the trouble and annoyance of having to empty and clean a disgusting overflowing cesspool!

6. The system is objected to because the ground where the tiles are buried can not be plowed, nor can heavy wagons drive over it without risk of breaking or displacing the pipes. This objection can not be denied, but it is a slight one, if one at all.

7. Many people object to the cost of the automatic siphon. However expensive this may be, it can not be considered a valid and sound objection against the system. As a matter of fact, the annular siphon, at least in the case of isolated suburban and country houses, does not cost very much. But, where this expense is objected to, the mistake should not be made of providing only one large overflow pipe from the liquid sewage tank, from which a constant small stream dribbles toward the irrigation field. This is a very imperfect and faulty arrangement. Only a short length of the tiles would receive an almost constant trickling flow of sew-

*NOTE.—Since writing the above the author has constructed such a straining chamber as is described in the preceding pages in connection with a 30,000 gallon flush-tank for sewage disposal at the State Homeopathic Asylum for the Insane, at Middletown, Orange county, New York.

age, saturating the ground around it to the surface and keeping it in an unwholesome condition. Moreover, the tiles would rapidly choke up with such an arrangement. Aëration, intermittent action, oxidation, powerful flushing, the uniform and entire filling of the tiles, all these conditions essential to the success of the system would be absent.

As indicated heretofore, a stop-valve in the outlet pipe, worked by hand, may take the place of an automatic siphon. The only other admissible arrangement, and one which I have adopted with perfect success, for smaller country houses, where the owners objected to the cost of an automatic flush-tank, is a sewage tank, provided with a large number of overflow pipes, all placed *exactly at the same level* in the tank—not a very easy thing to do, by the way—and all discharging simultaneously equal or nearly equal portions of the sewage into the various lines of absorption drains, thus securing a better distribution of the sewage. In this arrangement the tiles are likely to choke sooner than in the system with intermittent flush-tank, since they lack the cleansing effect of a sudden rush of water from the tank.

8. Another objection is the cost of the system. The first expense is, of course, more than that for a cesspool of moderate dimensions, but the frequently recurring expense of cleaning and emptying the latter soon renders the sub-surface irrigation system cheaper than the ordinary cesspool. For a small country house its whole expense should not exceed \$250, and for a large country residence the system ought not to cost more than \$500, which prices include the royalty on some of the better class of patented automatic flush-tanks.

9. It is sometimes stated that the sub-surface irrigation system is impracticable in the case of level ground, or where the lawn rises at the rear of the house, or where the main soil-pipe leaves the house at a depth below the cellar floor. To this I answer that some concessions must, under such circumstances, be made. For instance, in places where the available fall from the house to the irrigation field is slight, no plumbing fixtures should be placed in the basement, and the soil-pipe should leave the house as near the surface as practicable. In some cases it may even become necessary to build the flush-tank in embankment, hiding it in a sort of artificial terrace at the side of the house. By making the tank of a shallow depth it is usually possible to effect a suitable arrangement. In extreme cases it may become necessary to lift the sewage, after straining, and this may be accomplished by a variety of mechanical devices. Where a small air compressor may be operated in the cellar of the house, Shone's sewage ejector appears to offer a simple solution of the problem. Where steam is available, a pulsometer pump could be used for lifting the sewage. If gas is laid on to the house, or a gasoline gas machine is in operation, a gas engine or hot-air engine may prove economical. Finally, the motive force of the wind may be used for such purposes by erecting a

windmill with suitable pumping apparatus. Whatever the special difficulties may be in each case, they can usually be overcome at a slight sacrifice. Certainly they should not be considered objections to the system as such.

10. The objection that the sub-surface irrigation system poisons wells may be removed by simply locating the field away from wells, or where it must necessarily be close to a house, by abolishing wells, and depending on rainwater collected in tight underground cisterns, as a source of water supply.

11. Some think that it is impossible to purify sewage by turning it into agricultural drains located at a depth below the roots of the plants. It is hardly worth while to consider this objection, as many years of successful working of the system seem to amply contradict it.

12. The system has received condemnation because "sub-irrigation is a process faulty in principle, as it feeds vegetation by the upward rising of moisture, accompanied by evaporation, with all the chilling influences which are so injurious to vegetation as well as to human beings." I can only answer that, so far as my personal observation goes, practically no harm has ever been done to vegetation; on the contrary it stimulates the growth of grass, of shrubbery, and of fruit trees, which statement, I am confident, is borne out by the experience of other sanitary engineers.

13. Where the irrigation field is under-drained it frequently happens that at first the sewage leaks away too quickly, and without being purified, at the points where the distribution tiles cross the lines of agricultural tiles. This can be remedied after a while, when the earth in the deep trenches for the land tiles settles down and solidifies.

This, I believe, comprises all the criticisms raised against the sub-surface irrigation system. While I do not wish to be understood as claiming this method of sewage disposal as a panacea for all the evils incident to country house drainage, I hold that the system is an excellent one wherever suitable land, of suitable character and of sufficient area, properly located, may be obtained. For a more detailed discussion of the whole subject I may be permitted to refer to a small volume, recently issued, entitled "The Disposal of Household Wastes."*

*The Disposal of Household Wastes, by Wm. Paul Gerhard, C. E., New York; D. Van-Nostrand Co., 1890. Price 50 cents.

LIST OF PHYSICIANS.

ABBREVIATIONS—R., for regular; E., for eclectic; H., for homeopathic; P. M., for physio-medical; N. R., for not reported; D., for diploma; figures 3 and 10, for number of years' practice.

This list is furnished by County Health Officers, and any mistakes that occur in the spelling of names, or omissions, are attributable to them.

The names of County Health Officers are printed in capitals.

Adams County.

Name.	Post Office.	School.	Name.	Post Office.	School.
Aspy, Hiram	Geneva	R. D	Harper, J. L.	Pleasant Mills	R. 10
Andrews, O. P. M.	Monroe	R. D	Houghton, Asa	Linn Grove	R. 10
Boyers, J. S.	Decatur	R. D	Jelleff, C. A.	Decatur	R. D
Bergman, Noah	Berne	R. 10	McMillen, W. W. P.	Decatur	R. D
Brayton, William	Geneva	R. D	McDowell, Jacob	Geneva	R. 10
Cloverdale, J. S.	Decatur	R. D	May, Oliver Theo.	Monroe	R. D
COSTELLO, H. F.	Decatur	R. D	Sprunger, Peter A.	Berne	H. 10
Dorwin, T. T.	Decatur	R. 10	Reid, Chas. B.	Berne	R. D
Ford, Adam C.	Geneva	K. D	Trout, D. G. M.	Decatur	R. D
Holloway, A. G.	Decatur	R. 10	Thomas, P. B.	Decatur	K. D
Holloway, Mrs. M. L.	Decatur	R. D	Beavers, S. D.	Decatur	R. D
Hughes, Alexander	Pleasant Mills	R. 10	Ward, James B.	Geneva	R. D
Hill, J. C.	Pleasant Mills	R. 10			

Regular, 24; Homeopathic, 1.

Allen County.

Adams, Horace E.	Harlan	R. 10	Jones, J. H.	Fort Wayne	N. R. 10
Allen, Daniel M.	Fort Wayne	R. 10	Kesler, R. J.	Fort Wayne	R. D
Bartle, R. W.	Fort Wayne	E. D	Kryder, John L.	Cedarville	R. D
Banks, C. T.	Fort Wayne	E. D	Lipes, R. F.	Heller's Corner	R. D
Bavier, Wm.	Fort Wayne	R. D	Laubach, A. J.	Fort Wayne	R. D
Barnett, W. W.	Fort Wayne	R. D	Leonard, P. M.	Fort Wayne	H. —
Blade, Phillip	Fort Wayne	E. 10	Lemon, Anna M.	Fort Wayne	R. D
Boswell, A. J.	Fort Wayne	R. D	McCaskey, G. W.	Fort Wayne	R. D
Boswell, A. C.	Fort Wayne	R. D	McCausland, J. W.	Fort Wayne	R. D
Bower, G. B. M.	Fort Wayne	R. D	McCormack, T. H.	Fort Wayne	R. —
Bowen, G. W.	Fort Wayne	H. D	McCullough, H.	Fort Wayne	R. D
Bruebach, G. T.	Fort Wayne	R. D	McCullough, T. P.	Fort Wayne	R. D
Buchman, A. P.	Fort Wayne	R. D	McOscar, E. J.	Fort Wayne	R. D
Budi, A. C.	New Haven	R. D	Martz, Christian	Fort Wayne	H. D
Cary, D. B.	Fort Wayne	R. 10	Metcal, S. C.	Fort Wayne	R. D
Chambers, J. D.	Fort Wayne	R. D	Miller, J. E.	Fort Wayne	R. D
Coblentz, J. W.	Fort Wayne	R. 10	Myers, Isaac N.	Maples	R. D
Cutshall, Geo. W.	Arcola	R. D	Myers, Hereschel S.	Fort Wayne	K. D
Connelly, W. A.	Monroeville	E. —	Myers, Wm. H.	Fort Wayne	R. D
Deppeller, R. R.	Fort Wayne	E. —	Murphy, George	Leo	R. D
DILLS, THOMAS J.	Fort Wayne	R. D	Nieswonger, H. W.	Fort Wayne	R. 3
Dinnen, James M.	Fort Wayne	R. D	Nieschang, C. C. F.	Fort Wayne	R. D
Engle, A.	Monroeville	R. D	Null, Lycurgus	Fort Wayne	E. D
Ferguson, W. T.	Fort Wayne	R. D	Omo, Joseph H.	Harlan	R. D
Gard, Brookville	Fort Wayne	E. D	Pierce, Jessie B.	Fort Wayne	R. D
Green, Francis M.	Fort Wayne	H. D	Porter, Miles F.	Fort Wayne	R. D
Greenawalt, G. L.	Fort Wayne	R. D	Poyneer, G. W.	Fort Wayne	R. D
Gilbert, Charles J.	New Haven	R. D	Proegler, Carl	Fort Wayne	R. D
Gregg, J. S.	Fort Wayne	R. D	Rauch, A. J.	Fort Wayne	R. 3
Greenwell, F.	Huntertown	R. D	Rosenthal, I. M.	Fort Wayne	R. D
Gunther, J. W.	Harlan	K. 10	Ross, George A.	Fort Wayne	H. D
Harris, Ella	Fort Wayne	H. D	Reed, Ezra L.	Fort Wayne	R. 10
Harris, L. P.	Fort Wayne	H. D	Ruhl, Wm. De La	Sheldon	R. D
Hetrick, Jacob	Fort Wayne	R. D	Schilling, Carl	Fort Wayne	R. D
Houghton, Loyd	Huntertown	R. D	Siver, E. L.	Fort Wayne	R. D
Holloway, M. L.	Fort Wayne	H. D	Smith, C. S.	Fort Wayne	R. D

Allen County—Continued.

<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>	<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>
Smith, Joseph L.	Hoagland	E. D	Seaton, John R.	Fort Wayne	R. 10
Stemen, C. B.	Fort Wayne	R. D	Sledd, Samuel D.	Nine Mile	R. D
Stemen, George C.	Fort Wayne	R. D	Thayer, Frederick	Fort Wayne	R. D
Stemen, George B.	Fort Wayne	R. D	Van Buskirk, A. E.	Fort Wayne	R. D
Stultz, C. E.	Fort Wayne	R. D	Wheelock, K. K.	Fort Wayne	R. D
Sturgis, Lewis T.	Fort Wayne	R. D	Whery, Mrs. Mary A.	Fort Wayne	R. D
Stuts, J. A.	Fort Wayne	H. D	Whery, Wm. P.	Fort Wayne	R. D
Sweringen, H. V.	Fort Wayne	R. D	Woodworth, B. S.	Fort Wayne	R. D
Shutt, John M.	Harlan	N. R. 2	Worly, George N.	Poe	R. D
Swift, C. F.	Harlan	R. D	Young, John M.	Fort Wayne	R. D

Regular, 74; Eclectic, 7; Homeopathic, 9; not reported, 2.

Bartholomew County.

ARRVINE, J. S.	Columbus	R. 10	Kincaid, S. F.	Taylorsville	E. D
Allen, W. H.	Waymansville	R. 10	Kent, C. V.	Hope	R. D
Arrvine, Latta Ruth	Columbus	R. D	Kennedy, S. Y.	St. Louis Cross'g	R. D
Banker, A. J.	Columbus	R. D	Mennett, O. H.	Jonesville	R. D
Beck, W. H.	Hartsville	R. D	McLead, A. J.	Columbus	R. D
Butler, W. H.	Columbus	R. D	McCoy, Geo. T.	Columbus	R. D
Barrett, S. J.	Columbus	R. 10	Morris, S. H.	Columbus	R. 3
Batler, C. H.	Clifford	R. 10	Moore, C. A.	Columbus	E. D
Biddinger, S. W.	Waynesburg	E. 10	Mulvey, J. W.	Elizabethtown	R. D
Banks, W. H.	Waymansville	R. 10	Norton, F. D.	Petersville	R. D
Bernard, G. W.	Taylorsville	H. D	Newton, W. T.	Hope	R. D
Beck, Flavius J.	Hartsville	R. D	Roope, R. H.	Columbus	R. D
Carmichael, W. T.	Walesboro	P-M. D	Rice, A.	Columbus	H. D
Cosby, G. O.	Burnsville	R. D	Richards, F. B.	Taylorsville	R. 10
Clark, I. S.	Columbus	R. 10	Regennas, E. G.	Hope	R. D
Davis, Jos. H.	Azalia	R. 10	Reynolds, S. H.	Columbus	R. D
Dickman, Fred.	Hope	H. 10	Rains, G. W.	Jonesville	R. 3
Davis, G. N.	Columbus	P-M. D	Shane, T. A.	Columbus	H. D
Elrod, M. N.	Hartsville	R. D	Stapp, S.	Hope	R. 10
Falk, Fred	Columbus	R. 10	Smalley, J. K.	Hartsville	K. D
Francis, E. T.	Columbus	R. D	Thompson, D. A.	Elizabethtown	R. D
Fogle, E. T.	Hartsville	E. D	Veris, S. M.	Columbus	K. D
Hudson, J. B.	Columbus	E. D	Wisner, W. E.	Columbus	R. D
Hauzer, Z. T.	Columbus	R. D	Wright, J. F.	Columbus	R. D
Hawley, K. D.	Columbus	R. D	Weisenberg, J.	Waymansville	R. 10
Holder, R. E.	South Bethany	R. D			

Regular, 40; Homeopathic, 4; Eclectic, 5; Physio-Medical, 2.

Benton County.

Boice, A. C.	Earl Park	R. 3	Hunter, A. F.	Raub	E. D
Borlocher, F.	Earl Park	R. D	Kolb, Jonathan	Oxford	R. 10
Baker, Geo. W.	Oxford	E. 10	Mavity, J. S.	Fowler	R. D
COOK, CLARK	Fowler	R. D	Moore, A. V.	Ambia	R. D
Christley, J. B.	Boswell	R. 10	McConnell, H. C.	Oxford	E. D
Fall, Chas. W.	Oxford	R. 3	Purdy, A. J.	Fowler	R. D
Green, Nellie E.	Fowler	R. 3	Roberts, J. C.	Oxford	R. 10
Green, J. W.	Boswell	R. 3	Simpkins, J. C.	Boswell	R. 3
Gray, W. H.	Wadena	E. D	Thompson, L. J.	Otterbine	R. D
Gray, James A.	Otterbine	R. D	Wells, A. W.	Swannington	R. D
Hard, A. D.	Ambia	R. D	Whitecomb, J. H.	Boswell	R. 3

Regular, 18; Eclectic, 4.

Blackford County.

Alexander, James	Hartford City	H. 10	Landon, L. C.	Priam	R. 10
Bennett, H. H.	Montpelier	R. D	McFarland, J. E.	Milgrove	H. 10
Clouser, N. D.	Hartford City	R. 10	Morrison, J. A.	Montpelier	R. D
Crum, J. W.	Roll	R. D	Mason, C. R.	Hartford City	R. D
Cronin, W. N.	Hartford City	R. D	Sage, J. W.	Hartford City	H. D
DAVISSON, H. O.	Hartford City	R. D	Sellers, John W.	Montpelier	R. D
Drayer, Petro.	Hartford City	R. D	Scott, M. S.	Hartford City, P. M. D.	R. D
Downey, H. J.	Hartford City	R. D	Ransom, J. A.	Montpelier	R. D
Fisher, Martin L.	Hartford City, P. M. D.	R. D	Wheeler, W. H.	Hartford City	H. 10
Harrold, J. R.	Roll	R. D	Wilt, W. W.	Montpelier	R. D
Hardin, Alfred	Hartford City, P. M. D.	R. D	White, Robt. D.	Montpelier	H. 10
Hardin, Mrs. C. A.	Hartford City, P. M. D.	R. D			

Regular, 14; Homeopathic, 5; Physio-Medical, 4.

Boone County.

Name.	Post Office.	School.	Name.	Post Office.	School.
Austin, F. H.	Jamestown.	E. D	Kane, Jno. M.	Rosston	R. D
Ball, Joseph P.	Lebanon	E. D	Kellogg, N. P.	Lebanon	E. D
Bonnel, M. H.	Lebanon	R. D	Loder, Chas. C.	Advance	E. D
Bennington, A. M.	Max.	R. 10	Loder, Jennie C.	Advance	R. 10
Banta, Sam'l J.	Jamestown.	R. 10	Loder, Frank	Advance	E. D
Brendle, Benj. F.		P. M. D	McGee, Jos. A.	Big Springs	P. M. D
Burk, G. L.	Jamestown.	R. 10	McCormick, M. S.		R. D
Bonnel, Thos. A.	New Brunswick, R.	3	McNutt, W. Y.	Zionsville	R. D
Brown, Eli L.	Thorntown	E. D	Miller, A. O.	Lebanon	R. D
Boyd, Jno. M.	Thorntown	R. D	Meyers, Jno. M.	Terhune	R. D
Buttery, Margaret A.	Reese's Mills	N. R. 10	Martin, J. W.	Lebanon	R. D
Broadhurst, John	Jamestown	N. R. 10	O'Rear, Jno. H.	Jamestown	N. R. N. R.
Bruce, W. E.	Thorntown	H. D	Porter, A. G.	Lebanon	R. D
Barnes, Dawson E.	Thorntown	E. D	Porter, Jno. R.	Lebanon	R. 3
Coons, H. N.	Lebanon	H. D	Purdy, Jos. C.	Terhune	R. 3
Cotton, H. L.	Zionsville	R. D	Reagan, Jesse S.	Lebanon	R. 10
Curryer, Wm. F.	Thorntown	E. D	Rose, Madison H.	Thorntown	R. D
Crosby, Nathan		N. R. 10	Smith, Carter H.	Lebanon	R. D
Crans, L. F.	Hazlerigg	R. D	SCULL, D. C.	Lebanon	R. 10
Dunnington, A.	Thorntown	R. 10	Shulz, Wm. H.	Lebanon	R. D
Davis, David B.	Thorntown	N. R. 10	Steelsmith, J. M.	Rosston	R. D
Everett, W. E.	White Lick	R. D	Silvey, H.	Hazlerigg	R. 10
Ebberts, Jos. A.	Terhune	R. D	Turner, Thos. S.	Millidgeville	P. M. D
Finch, A. M.		N. R. N. R.	Trowbridge, Reese	Lebanon	R. D
French, Martha J.		R. D	Tilney, Wm. D.		E. D
Fitch, A. P.	Lebanon	R. D	Umberhine, C. D.	Reese's Mills	R. D
Hardy, J. S.	Whitestown	R. D	Van Nuys, F. B.	Lebanon	R. D
Hawk, Jos. R.	Thorntown	— 10	Van Nuys, D. H.	Lebanon	R. D
Heady, W. S.	Jamestown.	R. D	White, A. F.	Zionsville	N. R. N. R.
Hamilton, J. A.	Advance	R. D	Whitenack, J. H.		R. D
Hurt, Geo. K.	Elizaville	R. D	Walker, D. R.	Reese's Mills	R. D
Jones, R. E.	Lebanon	R. D	Waterous, H. W.		R. D
Jorden, Thos. W.	Whitestown	R. D	Worley, O. P.	Elizaville	P. M. D
Jones, Alfred B.	Lebanon	R. D	Winters, Wm. H.	White Lick	R. D

Regular, 44; Homeopathic, 3; Eclectic, 10; Physio-Medical, 4; Not Reported, 5.

Brown County.

Browning, Nathan	Needmore	R. 3	Moser, James P	Spearsville	R. D
Campbell, Jas. B.	Beanblossom	R. 10	Mossop, Steven	Schooner	R. D
Cook, Joseph M.	Nashville	E. D	Ralph, A. J.	Nashville	R. D
Fleesser, Joseph N.	Needmore	R. 10	ROSS, JOHN C.	Nashville	R. D
Fritch, Joseph	Needmore	R. 10	Wilson, S. C.	Pikes Peak	P. M. 10
Genoline, John F.	Nashville	R. D	Ward, J. G.	Beanblossom	R. 3
Griffitt, Arnold S.	Story	R. D	Axson, Stanley	Elkinsville	E. D

Regular, 12; Eclectic, 1; Physio-Medical, 1.

Carroll County.

Angell, Charles E.	Pittsburgh	R. —	Minnick, H. L.	Flora	R. —
ANGELL, CHAS. E.	Delphi	R. —	McAlister, J. W.	Lockport	— 3
Armstrong, E. G.	Camden	R. —	Loop, W. M.	Deer Creek	R. —
Armstrong, E. W.	Delphi	R. —	Lyons, F. P.	Carroll P. O.	R. —
Blanchard, Jas. R.	Delphi	R. —	Plank, W. H.	Deer Creek	R. —
Bradfield, B. D.	Deer Creek	R. —	Palmer, R. B.	Lockport	— 3
Camp, Chas. E.	Camden	E. —	Robinson, F. H.	Delphi	H. —
Conway, P. W.	Ockley	R. —	Shultz, F. A.	Delphi	E. —
Cook, A. J.	Flora	E. —	Shultz, J. J.	Delphi	E. —
Chittick, A. J.	Burlington	R. —	Sharer, W. F.	Delphi	R. —
Clymer, J. T.	Patton	R. —	Smith, W.	Delphi	R. —
Cochran, I. N.	Radnor	R. —	Scholl, C. E.	Camden	R. —
Greer, J. G.	Loco	— 10	Stewart, J. W.	Rockfield	R. —
Hall, J. D.	Camden	R. —	Sander, C. B.	Burrows	R. —
Jackson, Chas. B.	Bringinghurst	— 10	Walker, E.	Delphi	E. —
Kidd, W. J.	Burlington	E. —	Wirt, J. H.	Flora	— 10
Morrow, Jas. L.	Delphi	R. —	Wilson, R. I.	Lockport	R. —

Regular, 22; Homeopathic, 1; Eclectic, 6.

Cass County.

Name.	Post Office.	School.	Name.	Post Office.	School.
Allen, J. H.	Logansport. . .	R. D	Landry, S. F. . . .	Logansport. . .	R. 10
Baldwin, Thornburg. .	Galveston. . .	R. 10	LaRose, Noah J. . .	Altoner.	E. D
Ballard, J. W. . . .	Logansport. . .	R. D	Lester, Henry C. . .	Logansport. . .	E. D
Banta, Henry J. . . .	Logansport. . .	R. D	Lybrook, Wm. E. . .	Young America. .	R. D
Beall, John S.	Galveston. . .	E. 10	Lynas, J. B.	Logansport. . .	E. 10
Blew, Peter M. . . .	Royal Center. .	R. D	Million, David. . . .	Royal Center. . .	E. D
Bell, Wm. H.	Logansport. . .	R. D	Morris, James M. . .	Twelve Mile. . .	E. 10
BUSJAHN, F. A. . . .	Logansport. . .	R. D	Neff, J. N.	Walton.	R. D
Cady, Nelson W. . . .	Logansport. . .	R. D	Parks, Charles D. . .	Young America. .	E. D
Chord, A. M.	Logansport. . .	E. D	Parish, Harrison. . .	Montez.	E. 10
Clevinger, B. C. . . .	Logansport. . .	R. 10	Powell, J. T.	Logansport. . .	R. D
Coleman, A.	Logansport. . .	R. D	Quick, L. L.	New Waverly. . .	R. D
Coleman, Warren. . .	Logansport. . .	R. D	Quick, R. H.	New Waverly. . .	R. D
Downey, Jasper A. . .	Logansport. . .	E. D	Rolschauser, Eleanor	Logansport. . .	R. D
Dechess, Charles P. .	Walton.	R. D	Shultz, John B. . . .	Logansport. . .	E. D
Eckert, Daniel H. . .	Nebo.	E. D	Shultz, Jehn H. . . .	Logansport. . .	E. D
Fansler, D. N.	Royal Center. .	R. D	Simmon, Lewis A. . .	Crittenden. . . .	R. 3
Fitch, Graham N. . . .	Logansport. . .	R. D	Smith, J. S.	Lincoln.	E. D
Fouts, David N. . . .	Royal Center. .	E. 10	Sterret, Jas. E. . . .	Logansport. . .	R. D
Graves, Arthur E. . .	Galveston. . .	R. D	Stewart, Barnett. . .	Onward.	R. D
Holland, Joseph. . . .	Logansport. . .	R. D	Stevens, Benjamin C.	Logansport. . .	R. D
Hattery, Hiram. . . .	Logansport. . .	R. D	Talbot, J. H.	Logansport. . .	R. D
Herrmann, John. . . .	Logansport. . .	R. D	Talbot, J. W.	Logansport. . .	R. D
Herrmann, Arthur J. .	Logansport. . .	R. D	Taylor, Joseph L. . .	Logansport. . .	E. D
Jordan, M. A.	Logansport. . .	E. D	Thomas, O. L.	Logansport. . .	R. D
Justice, James M. . .	Logansport. . .	R. D	Wills, John B. . . .	Lincoln.	R. D

Regular, 34; Eclectic, 17; Homeopathic, 1.

Clarke County.

Allhands, D. S. . . .	New Washing'n	E. D	Maloy, J. M.	Sellersburg. . .	R. D
Adair, S. L.	New Washing'n	R. D	McKinney, V.	Sellersburg. . .	R. D
Bottomf, C. M. . . .	Charlestown. .	R. D	Martin, H.	Jeffersonville. .	E. D
Beckwith, Lod W. . .	Jeffersonville. .	R. D	McCoy, W. N.	Jeffersonville. .	R. E
Coombs, D. H. . . .	Charlestown. .	R. D	McClure, David. . . .	Jeffersonville. .	R. D
Carr, F. M.	Oregon.	10	McClure, S. C. . . .	Jeffersonville. .	R. D
Duerson, W. T. . . .	Bethlehem. . .	R. D	McClure, C. S. . . .	Jeffersonville. .	R. D
Elrod, E. L.	Henryville. . .	R. D	Martin, F. A.	Jeffersonville. .	E. D
Fields, D. L.	Jeffersonville. .	R. D	Nickols, J. M.	Sellersburg. . .	R. D
Fouts, W. K.	Jeffersonville. .	R. D	PEYTON, D. C. . . .	Jeffersonville. .	R. D
Ferguson H. H. . . .	Henryville. . .	R. D	Ruddell, L. N. . . .	Jeffersonville. .	R. D
Graham, T. A.	Jeffersonville. .	R. D	Reynolds, J. W. . . .	Memphis.	R. D
Graham, O. P.	Jeffersonville. .	R. D	Sheets, W. W.	Jeffersonville. .	R. D
Hancock, C. F. . . .	Jeffersonville. .	R. D	Stalker, B. F. . . .	New Providence. .	R. D
Hening R.	Jeffersonville. .	R. D	Secoy, S. H.	Jeffersonville. .	H. D
Hause, A. P.	Sellersburg. . .	E. D	Taggart, John. . . .	Solon.	R. D
Haymaker, G. W. . . .	Charlestown. .	R. D	Taggart, Jos.	Solon.	R. D
Hart, Douglas. . . .	Sellersburg. . .	R. D	Work, W. F.	Charlestown. . .	R. D
Jones, Cad.	Charlestown. .	R. D	Webber, Wm. A. . . .	Sellersburg. . .	R. D
Lampton, G. W. . . .	Jeffersonville. .	R. D	Williams, L. L. . . .	Utica.	R. D
Martin, T. J.	Nabbs.	R. D	Zuerner, Jos.	Jeffersonville. .	R. D

Regular, 36; Eclectic, 4; Homœopathic, 1; not reported, 1.

Clay County.

Allen, H. P.	Bowling Green. .	R. D	Nall, L. A.	Hoosierville. . .	R. D
Bartholomew.	Poland.	R. 3	Milligan, J. A. . . .	Lena.	R. 10
Black, Silas D. . . .	Brazil.	R. D	Modisett, J. A. . . .	Cory.	R. D
Byers, L. S.	Staunton. . . .	R. 3	McCullough, F. B. .	Staunton.	R. 10
Brown, W. D.	Clay City. . . .	R. 10	Nussel, F.	Brazil.	R. 3
Black, R. C.	Center Point. .	R. D	Pell, G. M.	Carbon.	R. D
Bryley, A.	Coffee.	R. 10	Price, J. M.	Brazil.	R. D
Culbertson, R. H. . .	Brazil.	R. D	Rundell, A. E. . . .	Center Point. .	R. D
Chamberlin, W. L. . .	Poland.	E. 3	Smith, J. F.	Brazil.	R. D
Cushman, D. W. . . .	Cloverland. . .	R. D	SPELBRING, B. F. .	Saline City. . .	E. 3
Dicks-on, W. J. . . .	Knightsville. .	- D	Siddens, J. O. . . .	Harmony.	R. D
Elliott, T. A.	Poland.	R. D	Siner, F. M.	Harmony.	R. D
Finley, G. W.	Harmony. . . .	R. D	Talbot, E. P.	Bowling Green. .	R. D
Freed, M. A.	Clay City. . . .	R. D	Tulley, A. F.	Brazil.	R. D
Gifford, J. C.	Brazil.	R. D	Thornton, F. G. . . .	Knightsville. .	R. 3
Glasgo, I. A.	Brazil.	R. D	Vansandt, W. H. . .	Carbon.	R. D
Hawkins, W. B. . . .	Brazil.	R. 10	Witty, W. B. F. . . .	Perth.	R. 10
Holmes, B. F.	Asherville. . .	R. D	Wolfe, C. H.	Clay City. . . .	R. D
James, O.	Cory.	R. D	Williams, John. . . .	Bowling Green. .	R. 10

Regular, 35; Eclectic, 2; not reported, 1.

Clinton County.

Name.	Post Office.	School.	Name.	Post Office.	School.
Abston, Jesse M.	Sedalia	R. D	Lyons, James H.	Hillisburg	R. D
Andrews, James	Colfax	E. D	Martin, Marquis L.	Forest	R. 10
Andrus, Glisha D.	Forest	R. D	Milburn, Joseph E.	Colfax	R. 10
Bogan, Elisha W.	Kirklin	R. D	Milburn, Robert C.	Munson	R. 3
Bowers, Valentine	Michigantown	R. D	Morrison, O. A. J.	Midle Fork	R. D
Brown, Geo. W.	Frankfort	R. D	McGuire, Wm. H.	Frankfort	E. D
Canfield, Moses S.	Frankfort	E. D	McMurray, James S.	Frankfort	R. D
Coble, Albert H.	Frankfort	R. D	McMurray, Allan S.	Frankfort	R. D
Coon, Hiram J.	Colfax	R. D	Palmer, R. F.	Frankfort	R. D
Cooper, William E.	Pick'd's Mills	P. M. D	Parker, Joseph	Colfax	R. D
Cooper, Wilson T.	Frankfort	R. D	Peter, Edward L.	Moran	R. D
Cox, Timothy B.	Frankfort	R. D	Powell, Thomas J.	Michigantown	R. D
Davis, Newton C.	Frankfort	H. D	Randall, Wm. B.	Hillisburg	R. 10
Douglass, Isaac W.	Michigantown	R. D	Redmon, Geo. W.	Frankfort	H. D
Douglass, Samuel	Frankfort	R. 10	Russell, Geo. A.	Jefferson	E. D
Dunn, Joseph R.	Pickard's Mill's	R. 3	Saylor, Andrew J.	Frankfort	E. D
Earhart, Isaac S.	Mulberry	R. D	Schwinn, Evan E.	Kirklin	R. D
Edmonds, Oscar W.	Frankfort	R. D	Seawright, John P.	Frankfort	R. D
Fall, William D.	Kirklin	R. 10	Shaw, James E.	Rossville	R. D
Fisher, John J.	Rossville	R. D	Sigler, John N.	Geetingsville	R. 3
Fisher, Sam'l B.	Rossville	R. 10	SIMS, S. B.	Frankfort	R. D
Gard, Oliver	Frankfort	R. D	Smith, Wm. G.	Scircleville	R. 3
Holmes, Horatio D.	Scircleville	R. 10	Speitel, Henry B.	Frankfort	E. 10
Holmes, James H.	Frankfort	R. D	Strange, William	Frankfort	R. 10
Holmes, Theo. F.	Pickard's Mills	R. 10	Tharp, Levi	Boyleston	R. 3
Hornaday, Wm. H.	Forest	R. D	Wilson, Alex. M.	Frankfort	R. 10
Huntsinger, Eli	Frankfort	H. D	Wise, James B.	Frankfort	H. D
Knapp, Sam'l O.	Frankfort	R. D	Yonkey, Wm. P.	Rossville	R. D
Koons, Monroe T.	Mulberry	R. D	Young, Martin V.	Frankfort	R. D
Lambert, I. C.	Munson	P. M. D	Bundt, Albert M.	Mulberry	R. D

Regular, 47; Eclectic, 5; Homeopathic, 4; Physio-Medical, 2; not reported 2.

Crawford County.

Baylor, Geo. W.	Milltown	R. D	Knight, Jno. B.	Mt. Prospect	R. 10
Bullington, Wm. H.	West Fork	R. 10	King, Newton W.	Taswell	R. 10
Brown, Sylvester L.	Eckerty	R. 10	Kimes, Daniel W.	Leavenworth	R. 10
Brown, Geo. W. L.	Doolittle's Mills	R. 10	Luckett, Chas. D.	English	R. D
Byrn, Spencer	Marengo	R. D	Merrilees, Wm. M.	Leavenworth	H. 10
Bobbitt, Jno. H.	Eckerty	R. 10	McCartney, Jos. C.	West Fork	R. D
Brown, Jno. F.	Miffin	R. 10	Mitchell, Isaac	Eckerty	R. 10
Crandall, David C.	Marengo	R. D	Myers, Josephus	Alton	E. D
Gobbell, Frederick R.	Grantsburg	R. 3	Meeks, Lewis	West Fork	R. 10
Gibbs, Jno. H.	Milltown	R. D	McAdams, L. C. C.	Eckerty	R. D
Holland, William	Milltown	R. 10	SETSER, HENRY H.	Leavenworth	R. D
Hammond, Jno. M.	English	R. D	Stewart, Lewis B.	Marengo	H. 10
Hazlewood, Jno.	Eckerty	R. D	Traugatt, Geo. B.	Milltown	P. M. D
Hollcroft, Wm. R.	Alton	R. 10	Walls, Jno. W.	Eckerty	R. D
Hawn, Jno. A.	Leavenworth	R. D			

Regular, 26; Homeopathic, 2; Physio-Medical, 1.

Daviss County.

Anderson, W. B.	Washington	R. D	McCown, C. C.	Washington	R. D
Achor, J. M.	Cornettsville	R. 10	McKittrick, O. H.	Plainville	E. 10
Bingham, A. W.	Montgomery	R. D	McPherson, S. L.	Montgomery	R. D
Bonham, A. N.	Washington	H. D	Parks, J. T.	Cumback	R. D
Brannock, B. B.	Cornettsville	R. D	Peck, S. W.	Washington	R. D
Clark, J. W.	Glendale	R. D	Ragsdale, M. H.	Elnora	R. 10
Carter, D. R.	Epsom	R. 10	Scudder, J. A.	Washington	R. D
Dearmin, John	Odon	R. D	Scudder, Charles	Washington	R. D
Eads, T. L.	Washington	R. 3	Scudder, C. P.	Washington	R. D
Faith, A. H.	Plainville	R. D	Stewart, S. F.	Glendale	R. D
Fitzgibbon, John	Washington	R. D	Smith, D. J.	Odon	R. D
Gers, Henry	Washington	R. D	Sears, T. B.	Odon	E. 10
Horral, W. A.	Washington	E. 10	Scanlon, M.	Washington	R. D
Harris, J. F.	Odon	R. D	Sears, P. M.	Elnora	R. D
Harned, F. M.	Washington	R. D	Scott, J. E.	Elnora	R. D
Hobbs, W. P.	Ragsville	R. 10	STROUSE, W. H. H.	Washington	H. 10
Joseph, A. F.	Washington	R. D	Tolliver, M. P.	Elnora	R. 10
Joseph, E. P.	Washington	R. D	Willeford, G. W.	Washington	R. D
Killion, J. N.	Cornettsville	P. M. 10	Wolf, H.	Washington	R. D
Lane, A. K.	Odon	R. 10	Walls, W. B.	Alfordsville	R. 10
Loughtridge, J. T.	Plainville	R. D	Winton, C. F.	Washington	R. D
Moore, J. L.	Washington	R. D	Young, W. L.	Odon	R. D
Millis, E. D.	Plainville	R. 10			

Regular, 40; Homeopathic, 2; Eclectic, 2; Physio-Medical, 1.

Dearborn County.

Name.	Post Office.	School.	Name.	Post Office.	School.
Bond, R. C.	Aurora	R. D	Libbert, E. J.	Farmers' Retr't	R. D
Bond, M. L.	Aurora	R. D	Lazenby, J. R.	Miller Tp.	R. 3
Bond, Edwin.	Lawrenceburgh	R. 10	Rectanus, F.	Aurora	R. D
Barkley, Wm. H.	Cold Springs	R. D	Ratcliff, J. T.	New Alsac	R. 3
Bowers, A. J.	Moore's Hill	R. D	Sale, J. H.	Dillsborough	R. D
Craig, T. E.	Lawrenceburgh	R. 3	Sale, F. H.	Dillsborough	R. D
Collins, S. H.	Lawrenceburgh	R. D	Smith, Edwin	Aurora	R. D
CHAMBERLAIN, S. B.	Lawrenceburgh	R. 10	Sutton, H. H.	Aurora	R. D
Coryea, Philip	Moore's Hill	R. D	Swales, W. H., Sr.	Logan Tip	R. D
Daughters, A. P.	Moore's Hill	R. 10	Schooley, Wm. A.	New Alsac	R. D
Feirmier, P.	Weisburg.	R. D	Spaulding, John	Dillsborough	R. D
Given, S. E.	Manchester.	R. D	Swales, W. H., Jr.	Logan Tip	R. D
Gatch, J. D.	Lawrenceburgh	R. D	Spencer, J. F.	Moore's Hill	R. D
Hayward, M. P.	Lawrenceburgh	R. D	Sale, F. H., Jr.	Aurora	R. D
Henry, W. C.	Aurora	R. D	Thomas, M. L.	Harrison	R. D
House, J. W.	Kyle	R. D	Thomas, L. R.	Harrison	R. D
Heaton, C.	Aurora	R. D	Vincent, H. C.	Guilford	R. D
Kyle, T. M.	Aurora	R. D	Vincent, Wm. T. S.	Guilford	R. D
Kyle, J. J.	Aurora	R. D	Willette, Wm. N. N.	Harrison	R. D
Liddle, J. R.	Bright	R. D	Walters, C. G.	Lawrenceburgh	R. 10
Lamb, James	Aurora	R. D	Weaver, S. M.	Dillsborough	R. D
Lord, T. J.	Dillsborough	R. D			

Regular, 36; Eclectic, 6; Homeopathic, 1.

Decatur County.

Alexander, Jno. H.	Greensburg.	R. D	Jerman, L. W. D.	New Point	R. D
Clark, Geo. E.	Waynesburg	R. D	Johnston, T.	Greensburg.	R. D
Clark, J. T.	Letts Corner	R. D	Miller, T. E. F.	Westport	R. D
Cain, C.	Clarksburg	R. 10	McCoy, W. A.	Forrest Hill	R. D
Cover, C. A.	Greensburg.	R. D	Parker, J. W.	Adams	R. 10
Crawford, Geo. S.	Clifty	R. D	Riley, J. H.	Sardinia	R. D
Ballard, D. J.	St. Paul.	R. D	Riley, Wm. F.	Sardinia	R. D
Beal, Chas. M.	Clarksburg	R. D	Riley, S. H.	Greensburg	R. D
Biddenger, S. W.	Waynesburg	R. 10	Schofield, J. V.	Greensburg	R. D
Bunker, L. C.	Greensburg.	R. D	SCOBY, D. L.	Greensburg.	R. D
Bracken, Wm.	Greensburg.	R. 10	Smith, J. L.	Clarksburg	R. D
Bracken, J. B.	Greensburg.	R. 10	Swem, E. B.	Greensburg.	R. 10
Burroughs, J. P.	Westport	R. 10	Thomas, R. M.	Greensburg.	R. D
Butler, W. G.	Clifty	R. D	Thomson, O. K.	Greensburg.	R. D
Goff, F. M.	Milhouse	R. 10	Vest, M. C.	Forrest Hill	R. 3
Goff, W.	Adams	R. 10	White, B. S.	Sardinia	R. D
Gullifer, T. B.	Greensburg.	R. D	Williams, M. H.	Letts Corner	R. D
Hause, Wm.	Westport	R. D	Wood, J. M.	Gaynorsville	R. D
Hitt, J. Y.	Greensburg.	R. D	Wray, H. B.	Adams	R. D
Hitt, S. B.	Greensburg.	R. D	Wright, S. Vail.	Greensburg.	R. D
Howard, F. M.	St. Paul.	R. D			

Regular, 25; Homeopathic, 3; Eclectic, 7.

Dekalb County.

Allen, Wm. S.	Auburn	R. 10	Kimmel, H. A.	Corunna	R. D
Bowen, —	Corunna	R. D	Leasure, Lydia P.	Auburn	R. D
Broughton, Frank	Waterloo	R. D	Lehman, Henry	Waterloo	R. 10
Bowman, H. W.	St. Joe	R. D	Lilly, Harrison	Butler	R. D
Branson, V. C.	Newville	R. D	Miller, Johnathan	Butler	R. 10
Bevier, William	Waterloo	R. D	Matheny, Timothy G.	Auburn	R. D
Barnett, J. S.	Butler	R. D	Nusbaum, Wm. H.	Auburn	R. D
Bennett, J. B.	Butler	R. D	Rudolph, O. F.	Fairfield Center	R. D
Bolan, Milton J.	Butler	R. 10	Shook, N. J.	Spencerville	R. D
Carpender, W. P.	Butler	R. D	Skilling, John	Garrett	R. D
Carpenter, J. J.	Waterloo	R. D	Sargent, Thos. G.	Garrett	R. D
Chamberlain, Jas. W.	Waterloo	R. D	Stewart, I. H.	Garrett	R. D
Casebear, J. B.	Auburn	R. D	SHEFFER, B. S.	St. Joe	R. D
Clevenger, Jas. A.	Garrett	R. D	Snyder, Fairfield	Corunna	R. D
Darby, A. Byron	Waterloo	R. D	Springs, D. A.	Auburn	R. 10
Emanuel, Jonas	Spencerville	R. D	Swartz, David	Auburn	R. D
Fanning, Fred W.	Butler	R. D	Swartz, Vesta M.	Auburn	R. D
Farring, A. S.	Waterloo	R. 10	Thompson, Jno. F.	Garrett	R. D
Ford, J. H.	Auburn	R. 10	Waller, Wm. H.	Waterloo	R. D
Greenwald, Marquis	Auburn Junct.	R. 10	Watson, B. G.	Auburn	R. D
Hull, Henry H.	Newville	R. 10	Wood, Fred B.	Garrett	R. D
Hughs, Jas. W.	Waterloo	R. 10			

Regular, 37; Eclectic, 5; Homeopathic, 1.

Delaware County.

Name.	Post Office.	School.	Name.	Post Office.	School.
Ames, Geo. F.	Eaton.	R. D	McCrilluss, Chas. C.	Muncie.	R. 3
Armitage, D. R.	Muncie.	R. D	McKinney, D. R.	Yorktown.	R. D
Bradbury, A. B.	Muncie.	R. D	Miller, Mrs. Elizab.	Muncie.	H. D
Brandon, W. S.	Daleville.	R. D	Moore, S. H.	Muncie.	R. D
Baird, John V.	Albany.	E. 6	Munsey, D. O.	New Corner.	R. D
Bell, John N.	New Burlington.	R. D	Murray, Albert P.	Albany.	R. D
Bunch, R. A.	Muncie.	E. D	Murray, Albert L.	Eaton.	R. 10
Bowers, Jos. F.	Muncie.	R. D	Miterell, Harvey.	Muncie.	R. 10
Bowles, Thomas J.	Muncie.	R. D	Payton, Lewis.	Muncie.	P. M. D
Boyden, W. J.	Muncie.	R. D	Phinney, Arthur J.	Muncie.	H. D
Comstock, J. S. D.	Cowan.	R. 10	Polk, E. E.	Muncie.	P. M. D
Cornelius, W. W.	Daleville.	R. 10	Puckett, Elijah J.	Muncie.	R. D
Cottrell, D. W.	Muncie.	R. 10	Quick, John C.	Muncie.	P. M. D
COWING, H. A.	Muncie.	R. D	Ross, John C.	Muncie.	E. 3
Downing, J. R.	Yorktown.	R. D	Reid, S. M.	Muncie.	R. D
Driscoll, W. E.	Muncie.	R. D	Rogers, Wm. R.	Shideler.	R. 10
Dill, N. C.	De Soto.	R. D	Reasoner, Osmer I.	Shideler.	R. D
Eastes, Wm. T.	New Corner.	R. R	Ricks, Martin W.	Muncie.	P. M. D
Flowers, Mrs. B.	Muncie.	P. M. D	Shields, Edgar A.	Muncie.	R. D
Good, Alonzo H.	Selma.	R. 10	Spurgeon, Wm. A.	Muncie.	P. M. D
Green, Geo. B.	Muncie.	R. 10	Smith, A. K.	Muncie.	H. D
Rarris, Jesse M.	Muncie.	R. 10	Smith, Chas. W.	Selma.	R. D
Hayden, J. H.	Stout.	P. M. D	Shively, David M.	Yorktown.	R. 10
James, Milton.	Muncie.	R. D	Shideler, Joseph K.	Muncie.	R. 10
Jackson, Frank G.	Muncie.	R. 3	Summers, Henry C.	Daleville.	R. 10
Jones, Auburn C.	Muncie.	H. D	Stick, Jesse.	Albany.	E. 10
Julian, James F.	New Corner.	E. D	Shaub, Daniel.	Muncie.	N. R. 10
Kemper, G. W. H.	Muncie.	R. D	Snell, Solomon.	Muncie.	E. 10
Kennedy, Evender C.	Muncie.	R. 10	Schriver, Elizabeth.	Muncie.	N. R. 10
Le Favour, Joseph L.	Albany.	R. 3	Trent, Isaac N.	Muncie.	R. D
Leech, Garrett D.	Muncie.	R. D	Trowbridge, David L.	Muncie.	E. 10
Marshall, Reuben.	Cowan.	R. D	Tuttle, John R.	Wheeling.	R. 3
Martin, John S.	Muncie.	H. D	Winans, H. M.	Muncie.	R. D
Mansfield, T. J., Amr			Whitney, W. D.	Muncie.	R. D
H'th Col., Cin., O.	Royerton.	N. R. D	Whitney, Mrs. E. A.	Muncie.	H. D

Regular, 44; Eclectic, 7; Homeopathic, 6; Physio-Medical, 7; Not Reported, 3.

Dubois County.

Bingham, O. A.	Jasper.	R. D	Kempf, Mathew.	Ferdinand.	R. D
Beeler, Elmer E.	Huntingburg.	E. D	Line, William.	Hillham.	R. 10
Clifford, Joseph.	Holland.	E. D	Liekenmeyer, E. G.	Huntingburg.	R. D
Coble, Frederick.	Birdseye.	R. D	Montgomery, Geo. B.	Huntingburg.	R. D
Cole, John A.	Raysville.	R. D	McMahon, Wm. R.	Huntingburg.	R. D
DeBruler, O. E.	Ireland.	R. D	Paw, George L.	Ireland.	R. D
Gilbert, Abe.	Birdseye.	R. 10	Rust, John F.	Holland.	R. 10
Gleason, E. E.	Ireland.	R. 10	Rust, Frederick.	Holland.	R. D
Haig, M. A.	Huntingburg.	R. D	Stork, Henry W.	Holland.	R. D
Hunter, Walter.	Portersville.	R. D	SALB, JOHN P.	Jasper.	R. D
Harmoni, W. H.	Schnellville.	R. 10	Schreaffer, John.	St. Anthony.	3
Johnson, L. B. W.		R. D	Stephson, Edward.	Jasper.	R. 10
Johnson, John R.	Celestine.	E. D	Williams, G. P.	Huntingburg.	R. 10
Knapp, Victor.	Ferdinand.	R. D	Westz, Toliver.	Jasper.	R. D
Kempf, James E.	Jasper.	R. D	Walker, Geo. W.	Ellsworth.	R. 10

Regular, 18; Eclectic, 3.

Elkhart County.

Aitkins, F. M.	Bristol.	R. D	Eisenbeiss, Samuel.	New Paris.	R. 10
Ash, Elmer E.	Goshen.	R. D	Fisher, A. L.	Elkhart.	H. 10
Ash, W. N.	Middlebury.	R. D	Frink, C. S.	Elkhart.	R. 10
Baker, D. W.	Benton.	R. 10	Greiner, G. G.	Vistula.	R. 3
Barbour, J. E.	Bristol.	H. D	Haggerty, R. Q.	Elkhart.	R. D
Barney, Lee M.	Elkhart.	R. D	Hani, W. F.	Elkhart.	R. D
Baumgartner, C. C.	Elkhart.	N. R. 10	Harding, P. D.	Goshen.	R. D
Beyerle, H. J.	Goshen.	R. D	Harrington, O. B.	Elkhart.	R. D
Bower, C. C.	Elkhart.	R. D	HEATWOLE, J. H.	Goshen.	R. D
Bowman, W. E.	Elkhart.	R. D	Herring, Frederick.	Goshen.	E. 10
Bowser, J. M.	Nappanee.	R. D	Horton, Mrs. Alice.	Elkhart.	E. D
Brumbaugh, Melvin.	Gravelton.	P. M. D	Hoy, Benj. F.	Middlebury.	R. D
Cassell, Elizabeth.	Elkhart.	R. D	Inks, John S.	Nappanee.	R. D
Clark, Stephen T.	Elkhart.	R. D	Irwin, A. J.	Goshen.	R. D
Dreese, C. L.	Goshen.	R. D	Jackson, Amos C.	Goshen.	R. 10
Eckleman, F. C.	Elkhart.	R. D	Jennings, J. W.	Millersburg.	R. D

Elkhart County—Continued.

<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>	<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>
Johnson, W. W. . . .	Goshen	R. D	Myers, J. W.	Middlebury . . .	E. D
Kauffman, Anna G. . .	Goshen	E. 10	Neal, W. A.	Elkhart.	R. 3
Keene, Daniel P. . . .	Goshen	R. D	Niman, C. H.	Elkhart.	R. D
Knepple, W. H.	Wakarusa	R. 3	Peck, M. Eva.	Goshen	R. 3
Krider, M. K.	Goshen	H. D	Putt, F. L.	Middlebury. . . .	R. D
Krider, Wm. B.	Goshen	H. D	Rohrig, P. H.	Goshen	R. D
Kyler, W. B.	Benton	R. 10	Sensenich, Aaron . .	Wakarusa	R. D
Latta, M. M.	Goshen	R. D	Short, I. W.	Elkhart.	R. D
Larimer, B.	Millersburg. . . .	R. D	Sparkling, C. C. . . .	Goshen	R. 10
Lichty, S. E.	Wakarusa	R. D	Spohn, G. W.	Elkhart.	R. D
Lockwood, R. L.	Wakarusa	H. D	Stauffer, H. R.	Nappanee.	R. D
Martin, S. E.	Elkhart	E. 10	Thomas, W. H.	Elkhart.	H. D
Mathews, James	New Paris	R. D	Turner, Porter	Elkhart.	H. D
Merrill, Chester W. . .	Goshen	R. D	Whippy, Geo. A. . . .	Goshen	H. D
Miles, F. L.	Elkhart.	R. D	Whippy, W. A.	Goshen	H. 3
Miller, D. L.	Goshen	R. D	Whitmer, B. F.	Goshen	R. D
Montgomery, T. (col.) .	Elkhart.	R. 10	Work, J. A.	Elkhart.	R. D

Regular, 51; Homeopathic, 9; Eclectic, 5; Physio-Medical, 1; Not Reported, 1.

Fayette County.

Butler, D. W.	Connersville . . .	R. 10	Phares, O. P.	Connersville . . .	R. D
Chitwood, G. E.	Connersville . . .	R. D	Pepper, Wm. J.	Connersville . . .	R. D
Chitwood, Joshua . . .	Connersville . . .	R. D	Shephard, S. D.	S. Everton	R. 10
Chitwood, John E. . . .	Connersville . . .	R. D	Smalley, J. G.	Connersville . . .	R. D
Chitwood, F. A.	Connersville . . .	R. 10	Sipe, R. W.	Orange	R. D
Derbyshire, Ephriam . .	Bentonville	R. D	Tingley, W. B.	Harrisburg	R. 19
Dillman, L. D.	Connersville . . .	R. D	Turner, John.	Null's Mills	E. 10
Ford, T. J.	Connersville . . .	R. D	Vance, S. W.	Connersville . . .	R. D
GREGG, V. H.	Connersville . . .	R. 10	Tyrrell, A. D.	Connersville . . .	P. M. 10
Hamilton, S. N.	Connersville . . .	R. D	Wall, John.	Connersville . . .	R. 10
Laramore, J. D.	Connersville . . .	R. D	Webster, Elias	Connersville . . .	H. D
Ludwick, V. D.	Connersville . . .	R. D	Wyman, Charles	Connersville . . .	R. D

Regular, 21; Homeopathic, 1; Eclectic, 1; Physio-Medical, 1.

Floyd County.

Alexander, S. J.	New Albany . . .	R. D	Lung, H. B.	New Albany . . .	R. D
Adams, P. H.	New Albany . . .	R. D	Levi, L. D.	New Albany . . .	H. D
Beust, Max.	New Albany . . .	R. D	McIntyre, C. W., Sr . .	New Albany . . .	R. D
Beust, Bernard.	New Albany . . .	R. 10	McINTYRE, C. W., Jr.,	New Albany . . .	R. D
Burney, W. A.	New Albany . . .	R. D	Neat, Thos. C.	New Albany . . .	R. 10
Brigham, Chas. N. . . .	New Albany . . .	H. D	Needham, H. J.	New Albany . . .	H. D
Buley, D. M.	Georgetown	R. D	Payne, John N.	New Albany . . .	R. D
Clapp, W. A.	New Albany . . .	R. D	Rutherford, R. S. . . .	Galena	R. D
Cannon, Geo. H.	New Albany . . .	R. D	Rafferty, B. T.	New Albany . . .	R. D
Cook, Chas. P.	New Albany . . .	R. D	Rancie, G. W.	New Albany . . .	R. D
Davis, James M.	Greenville	R. D	Sloan, John	New Albany . . .	R. D
Davis, Chas. P.	Galena	R. D	Stewart, John L. . . .	New Albany . . .	R. D
Erni, G. O.	New Albany . . .	H. D	Starr, W. L.	New Albany . . .	R. D
Easley, E. P.	New Albany . . .	R. D	Sigmon, Edwin L. . . .	New Albany . . .	R. D
Gresham, G. W.	New Albany . . .	R. D	Tazgart, W. J.	Georgetown	R. D
Garey, D.	New Albany . . .	R. D	Williams, W. R.	Greenville	R. D
Haus, A. P.	New Albany . . .	E. 11	Wolfe, H. S.	New Albany . . .	R. D
Harris, R. W.	New Albany . . .	R. D	Wilcox, S. C.	New Albany . . .	R. D
Jones, Jas. H.	New Albany . . .	R. D	Wilcox, F. H.	New Albany . . .	R. D
Lemon, John H.	New Albany . . .	R. 10	Rodgers, —	New Albany . . .	E. D

Regular, 34; Homeopathic, 4; Eclectic, 2.

16—Bd. of H.

Fountain County.

<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>	<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>
Armstrong, Louis P.	Newtown . . .	R. D	Moore, Patrick B.	Kingman . . .	R. 10
Aydelette, Thos. B.	Newtown . . .	R. D	Mendenhall, E. W.	Harveysburg . .	R. 10
Anderson, Sarah E.	Veedersburg . N.	R. D	Orrahood, Job D.	Coal Creek . . .	R. D
Burlington, Chas. N.	Attica	E. D	Parker, John . . .	Melott	R. 3
Brackney, M. F.	Wallace	R. D	Pettitt, Marshall .	Veedersburg . .	R. D
Cole, Wm. C.	Attica	R. D	Rolang, George . .	Covington . . .	R. D
Coggins, Chas. M.	Coal Creek . .	R. D	Rifle, John S. . .	Veedersburg . .	R. D
Case, Mervin F.	Attica	R. D	Richison, A. G. . .	Veedersburg . .	R. D
Dawden, J. W.	Yeddo	E. 10	Rice, John T. . .	Attica	R. D
Fine, Ephraim M.	Steam Corner .	R. D	Rupurt, Archie M.	Attica	R. D
Finney, Chas. J.	Attica	R. D	Stout, Wm. R. . .	Hillsboro . . .	R. D
Hays, Geo. C.	Hillsboro . . .	R. D	Sparks, Joseph T. .	Yeddo	R. 10
HENDERSON, J. T.	Covington . . .	R. D	Shoaf, Francis A. .	Yeddo	R. 10
Jones, George S.	Covington . . .	R. D	Spinning, Lynn . .	Covington . . .	R. D
Mock, John W.	Covington . . .	R. D	Young, Benj. F. . .	Veedersburg . .	R. D
McNeill, Scott . .	Stone Bluff . .	R. 3			

Regular, 28; Electic, 2; not reported, 1.

Franklin County.

Averdick, Henry G.	Oldenburgh . .	R. D	McGuire, Wm. W. .	Metamora . . .	R. 10
Anness, W. R. . .	Bath	R. 3	Morgan, John . . .	Springfield . .	R. D
Abbott, June . . .	Peppertown . .	E. D	McElwee, Harry . .	Bath	R. D
Berry, Geo. Sr . . .	Brookville . .	R. 10	Owens, Robert J. . .	Cedar Grove . .	R. D
Berry, Wm. H. . .	Brookville . .	R. D	Paterson, Evan L . .	Brookville . . .	R. D
BUCKINGHAM, G. B.	Brookville . .	R. D	Quick, John H. . .	Brookville . . .	R. 10
Bertenshaw, T. J.	Drewersburgh .	R. 10	Rayburn, I. W. . .	Andersonville .	R. D
Best, Wm. P. . . .	Mt. Carmel . .	E. D	Reed, Lewis Dewitt	Fairfield	R. D
Cupp, M. F. . . .	Metamora . . .	R. D	Schum, Charles . .	St. Peters . . .	R. 10
Conner, Thomas H.	Metamora . . .	R. D	Spillman, Frank J.	Andersonville .	R. D
Davis, W. H. . . .	Mt. Carmel . .	R. 10	Simmons, Ekmah . .	Blooming Grove .	R. 10
Davis, W. J. . . .	Laurel	R. D	Starr, P. J. . . .	Blooming Grove .	R. 10
Gregory, Henry, Jr.	Laurel	R. 10	Squires, Geo. E. . .	Brookville . . .	E. D
Linegar, Daniel B.	Whitcomb . . .	E. 3	Stoddart, Solomon P.	Brookville . . .	E. D
Mann, E. B. . . .	Oldenburgh . .	R. D			

Regular, 24; Electic, 5.

Fulton County.

Babcock, I. L. . . .	Rochester . . .	E. D	Johnston, A. . . .	Akron	R. 3
Bailey, A. L. . . .	Akron	E. 10	Loring, C. Y. . . .	Rochester . . .	R. D
Brown, Angus . . .	Rochester . . .	E. 10	Meizler, J. B. . . .	Rochester . . .	R. 10
Case, Augustus . .	Akron	R. D	Morris, James M. .	Fulton	R. 10
Calvin, G. M. . . .	Kewanna . . .	E. 3	Overmyer, B. F. . .	Leiter's Ford . .	R. 3
Campbell, C. W. . .	Blue Grass . .	R. 3	Rhodes, E. E. . . .	Rochester . . .	R. D
Cleland, W. T. . . .	Kewanna . . .	E. 10	Rannels, Jacob N . .	Rochester . . .	E. D
Clymer, Newton J.	Bloomingsburg .	E. D	Robbins, A. H. . .	Rochester . . .	R. 3
Dawson, B. F. . . .	Kewanna . . .	R. D	Richards, John . .	Fulton	R. D
Fish, S. R.	Bloomingsburg .	R. 10	Smith, James S. . .	Kewanna	P. M. D
Gould, Charles E.	Rochester . . .	R. D	Shaffer, W. S. . . .	Rochester . . .	R. 3
Gould, V.	Rochester . . .	R. D	Shields, A. M. . . .	Rochester . . .	R. D
HARTER, C. F. . . .	Akron	R. D	Terry, Charles C. . .	Akron	R. D
Hector, C.	Rochester . . .	E. D	Thompson, A. R. . .	Kewanna	R. 10
Hill, W.	Rochester . . .	E. D	Washburn, Elihu P.	Kewanna	R. D
Howell, J. Q. . . .	Kewanna . . .	E. 10			

Regular, 19; Homeopathic, 2; Electic, 6; Physio-Medical, 1; not reported, 2.

Gibson County.

<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>	<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>
Burton, A. R. . . .	Princeton . . .	R. D	Maxam, Frank H. . .	Princeton . . .	R. D
Burton, Hiram . . .	Somerville . . .	R. 10	Montgomery, Thos. J.	Owensville . . .	R. D
Ballard, Jno . . .	Haubstadt . . .	R. D	Marchand, Victor . .	Haubstadt . . .	R. D
Blair, William W . .	Princeton . . .	R. D	Munford, Samuel E .	Princeton . . .	R. D
Blair, Frank . . .	Princeton . . .	R. D	Malone, Jno. A . . .	Princeton . . .	R. 10
Brown, T. M . . .	Oakland City . .	R. 10	Moore, Robert . . .	Somerville . . .	R. D
Benson, R. A . . .	Buck-kin . . .	R. D	McGowan, J. W . . .	Oakland City . .	R. D
Curtner, Paul H . .	Hazleton . . .	R. D	Nelson, Frank . . .	Hazleton . . .	R. 3
Clark, John I . . .	Owensville . . .	R. D	Ottmann, Peter . . .	Haubstadt . . .	R. D
Carter, Virgil R . .	Princeton . . .	E. D	Patten, James C . . .	Francisco . . .	R. D
Duncan, Wm. B . . .	Patoka . . .	R. 3	Powell, Doctor G . .	Princeton . . .	R. D
Dorsey, Geo. L . . .	Princeton . . .	R. D	Rutter, Jno . . .	Haubstadt . . .	E. D
Eads, E. E . . .	Oakland City . .	R. D	Runcie, J. W . . .	Fort Branch . .	R. D
Fisher, George C . .	Patoka . . .	R. D	Reavis, Daniel P . .	Francisco . . .	R. 3
French, W. W . . .	Fort Branch . .	R. D	Richie, L. B . . .	Buckskin . . .	R. 3
Gudgel, J. F . . .	Hazleton . . .	R. D	Strickland, Geo . . .	Francisco . . .	R. D
Genung, W. R . . .	Fort Branch . .	R. D	Slott, Jno . . .	Princeton . . .	R. D
Hudson, O. L . . .	Princeton . . .	H. 10	Shoemaker, D. M . .	Owensville . . .	E. 10
Hopkins, W. G . . .	Fort Branch . .	R. D	Shelton, J. W . . .	Somerville . . .	E. 10
Ireland, J. M . . .	Francisco . . .	R. D	SHOPTAUGH, S. H .	Princeton . . .	R. D
Kidd, Wm. G . . .	Princeton . . .	R. D	Stewart, W. H. H . .	Oakland City . .	R. D
Kendle, Geo. C . . .	Princeton . . .	R. D	Stuart, A. L . . .	Somerville . . .	R. D
Leister, W. L . . .	Princeton . . .	E. 10	Taylor, J. N. T . . .	Oakland City . .	E. 10
Littlepage, Geo . .	Haubstadt . . .	R. D	Williamson, W. T . .	Fort Branch . .	E. D
Mason, Geo. C . . .	Oakland City . .	R. D	Williams, J. M . . .	Owensville . . .	E. D
Mason, O. L . . .	Somerville . . .	R. D			

Regular, 41; Homeopathic, 1; Eclectic, 9.

Grant County.

Adkins, J. C . . .	Marion . . .	R. 3	Lomax, Wm . . .	Marion . . .	R. D
Ayers, S. D . . .	Marion . . .	R. D	Lanshee, I. F . . .	Swayzee . . .	R. D
Barnes, R. A . . .	Marion . . .	P. M. D	Lenox, Frank . . .	Swayzee . . .	R. D
Barnes, Eleanor . .	Marion . . .	P. M. D	Langston, Edgar . .	Point Isabelle .	R. 10
Barnes, Wm. C . .	Mier . . .	R. D	Lord, J. L . . .	Marion . . .	R. D
Bailey, H. R . . .	Sweetsters . . .	E. D	Lettle, I. B . . .	Marion . . .	R. D
Conover, J. V . . .	Marion . . .	E. D	Landess, G. A . . .	Van Buren . . .	R. D
Coldren, W. R . . .	Marion . . .	P. M. D	Ludlenn, B. F . . .	Marion . . .	R. D
Corey, Lavamer . .	Van Buren . . .	R. D	Mock, J. F . . .	Marion . . .	E. 3
Corey, Lewis J . . .	Van Buren . . .	R. D	Munsey, Mrs. J. F .	Marion . . .	P. M. D
Corey, C. W . . .	Van Buren . . .	R. D	Moon, Allen . . .	Fairmount . . .	P. M. D
Carey, Isaac . . .	Marion . . .	P. M. D	Meek, J. H . . .	Jonesboro . . .	R. 10
Daniels, G. W . . .	Point Isabelle .	R. D	McKinney, G. H . .	Jonesboro . . .	R. D
Davis, S. H . . .	Sweetsters . . .	E. D	Moore, C. V . . .	Fairmount . . .	R. D
Eohert, C. H . . .	Marion . . .	R. D	Moore, S. W . . .	Marion . . .	E. D
Eberle, Peter . . .	Marion . . .	P. M. 3	McKinziey, Wm. M .	Marion . . .	P. M. D
Flynn, Will . . .	Marion . . .	R. D	Ross, Justin . . .	Marion . . .	R. D
Forrest, J. H . . .	Marion . . .	E. D	Shively, J. S . . .	Marion . . .	R. 10
Tite, C. H . . .	Jalapa . . .	P. M. D	Shively, M. T . . .	Marion . . .	R. D
Hollis, Samuel . .	Upland . . .	R. D	Snodgrass, D. B . .	Marion . . .	P. M. D
Henley, Alph . . .	Fairmount . . .	R. D	Stout, O. G . . .	Upland . . .	R. D
Hanmore, J. J . . .	Landesville . .	R. D	Stevens, A. B . . .	Marion . . .	P. M. D
Haines, N. P . . .	Herbst . . .	R. D	Seal, I. M . . .	Hackleman . . .	R. D
Hubbard, W. C . . .	Marion . . .	R. D	Snodgrass, Mrs. Mary	Marion . . .	P. M. D
Hamilton, A. A . .	Marion . . .	R. D	Thomas, W. B . . .	Fairmount . . .	R. D
Horne, S. S . . .	Jonesboro . . .	R. D	Vatan, Mrs. R. A . .	Marion . . .	P. M. D
Hough, W. A . . .	Marion . . .	P. M. D	Williamson, P. E . .	Sweetsters . . .	R. D
Jones, F. P . . .	Marion . . .	E. D	Williams, Lewis . .	Marion . . .	R. D
Knight, J. C . . .	Jonesboro . . .	R. D	Whitson, E. M . . .	Jonesboro . . .	R. 10
Kimball, T. C . . .	Marion . . .	R. D	WALL, M. M . . .	Marion . . .	H. D
Kimball, A. D . . .	Marion . . .	R. D	Webster, E. C . . .	Marion . . .	E. D
Kersey, I. B . . .	Marion . . .	P. M. D			

Regular, 39; Physio-Medical, 15; Eclectic, 8; Homeopathic, 1.

Greene County.

Name.	Post Office.	School.	Name.	Post Office.	School.
Asbury, W. H. H. . . .	Jasenville . . .	R. . .	Mulane, Joseph . . .	Lyons	R. D
Aydelotte, Thomas . .	Lyons	R. 3	Mayfield, Thos. . . .	Pleasantville . .	R. D
Acton, William G. . .	Koleen	R. 10	Minich, James A. . .	Worthington . . .	R. D
Arnold, T. G.	Lyons	R. 10	McIntosh, Jacob P. .	Newark	E. 3
Burge, Nicholas C. . .	Park	R. 10	McDaniel, James . .	Pleasantville . . .	R. 10
Burke, William H. . .	Scotland	R. D	McDowell, Wm. H. . .	Pleasantville . . .	R. 3
Bridwell, Lafayette . .	Owensburg . . .	R. 3	McCabe, Henry H. . .	Worthington . . .	E. D
Cook, Peter M.	Solsberry	R. D	McDowell, L. C. . . .	Pleasantville . . .	R. D
Cravens, Samuel G. . .	Bloomfield . . .	R. D	Newman, Wm. R. . . .	Linton	E. 10
Cravens, Elmer R. . . .	Marco	R. D	Norvall, Horace V. .	Bloomfield	R. 3
Durment, Chas.	Newberry	R. D	O'Neal, Wm. A. . . .	Newberry	R. 10
Dilly, L. H.	Linton	E. 3	Squires, Wm. B. . . .	Worthington . . .	E. D
Dixon, Mary Jane . . .	Dixon	Acc. 3	Sherwood, Elmer T. .	Linton	R. D
Daily, Thos L.	Linton	E. .	Selfridge, Wm. R. . .	Worthington . . .	R. D
Ellis, Ira	Linton	R. D	Sims, T. A.	Newberry	R. D
EDWARDS, CHAS. H. . .	Lyons	R. D	Stone, T. A. M. . . .	Jonesburg	R. 3
Fleming, Wm. A. . . .	Pleasantville . .	R. 3	Sherwood, B. M. . . .	Linton	R. D
Gray, John W.	Bloomfield . . .	R. D	Sherwood, H. I. . . .	Linton	R. D
Gray, Geo. B.	Worthington . .	R. D	Rose, B. A.	Linton	R. D
Gray, Simeon.	Worthington . .	R. 3	Roberts, E. S.	Tulip	R. 10
Gastineau, Henry . . .	Worthington . .	R. 4	Roberts, E. T.	Tulip	R. 10
Harrah, John M. . . .	Switz City . . .	R. D	Talbott, James	Marco	R. D
Hannon, John W. . . .	Scotland	R. D	Williams, Noah W. . .	Owensburg	R. 3
Herold, Henry	Owensburg . . .	R. 10	Wheeler, Thomas R. .	Bloomfield	R. D
Lowder, Howard R. . .	Bloomfield . . .	R. D	Yenne, Chas. H. . . .	Owensburg	R. D
Jackson, E. T.	Linton	R. 3	Young, Jabob B. . . .	Newark	R. D
Marshal, Alfred F. . .	Jasonville . . .	R. 3			

Regular, 46; Eclectic, 5; not reported, 1.

Hamilton County.

Aldred, J. A.	Hortonville . . .	R. D	Johns, W. D.	Jolietville . . P.-M.	D
Applegate, A. J. . . .	Eagletown . . .	R. 10	Kitchell, J. S.	Noblesville . . .	H. 10
Austin, E. P.	Noblesville . . .	E. 10	Loehr, E. C.	Noblesville . . .	R. D
Benson, J. L.	Noblesville . . .	R. D	Lamb, E.	Fortville	R. D
Booth, A. D.	Noblesville . . .	R. D	Lyle, A. W. S.	Fisher's Switch. .	R. D
Baker, J. J.	Westfield . . . P.-M.	D	Miesse, Adam	Noblesville . . .	R. 3
Coffin, B. F.	Westfield . . . P.-M.	10	Moore, G. B.	Omega	R. D
Cook, C. W.	Carmel	P.-M. D	Milliken, H. W. . . .	Sheridan . . . P.-M.	D
Cropper, E. A.	Sheridan	R. D	McMartry, J. T. . . .	Boxley	R. D
Davenport, H. E. . . .	Sheridan	R. D	McShan, J. T.	Carmel	R. D
Davenport, I. W. . . .	Sheridan	R. D	Murphy, J. M.	Arcadia	R. D
Dove, S. C.	Westfield	R. D	Newby, J. C.	Boxley	R. D
Driver, J. C.	Atlanta	R. D	Pettijohn, O. B. . . .	Deming	R. D
Fancher, J. W.	Sheridan	R. D	Parr, J. N.	Jolietville	R. D
Fodvea, Z. H.	Westfield	R. D	Pettijohn, J. B. . . .	Westfield	R. D
Graham, W. B.	Noblesville . . .	R. D	Roads, Anna	Atlanta	R. 10
Gray, J. M.	Noblesville . . .	R. D	Smith, T.	Stantown	R. D
Griffin, R. I.	Deming	R. 3	Stout, H. H.	Cicero	R. D
HAWORTH, M. C. . . .	Noblesville . . .	R. D	Shelburn, Wm. H. . .	Jolietville	R. D
Hobson, J. F.	Noblesville . . .	E. D	Tucker, A. R.	Cicero	R. D
Harold, N. G.	Carmel	R. D	Teter, G. W.	Sheridan . . . P.-M.	D
Hershey, K. C.	Gray	R. D	Whitsett, P. P. . . .	Clarksville . . .	R. D
Heath, J. P.	Fisher's Switch. .	R. D	Warford, F. M. . . .	Cicero	R. D
Herr, H. H.	Westfield	R. D	White, T. A.	Noblesville . . .	R. D
Harold, I. S.	Westfield . . . P.-M.	D	Willson, Wm. L. . . .	Clarksville . . .	E. D
Johnson, M. S.	Eakin	R. D			

Regular, 39; Eclectic, 3; Physio-Medical, 7.

Hancock County.

<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>	<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>
Adams, M. M.	Greenfield	R. D	Hammer, N. L.	Wilkerson	P. M. D
Andrews, J. O.	Westland	R. 10	Hervey, F. F.	Fortville	R. D
BOOTS, S. S.	Greenfield	E. D	Hervey, T. P.	McCordsville	R. 10
Bruner, C. K.	Greenfield	R. D	Hervey, S. W.	McCordsville	R. D
Bruner, Mary L.	Greenfield	R. D	Julian, J. P.	Wilkerson	P. M. D
Black, John P.	Greenfield	R. D	Justice, W. A.	Eden	R. D
Buchel, Jacob	New Palestine	10	Justice, J. M.	Maxwell	R. D
Bell, J. S.	Philadelphia	10	King, W. R.	Greenfield	R. 10
Cory, J. S.	McCordsville	R. 3	Kirkhoff, C. H.	New Palestine	R. D
Cox, W. B.	Charlottesville	E. 10	Larimore, J. M.	Carrollton	R. D
Cook, B. M.	Wilkerson	R. D	Martin, S. M.	Greenfield	R. D
Collins, O. A.	Mohawk	R. D	Ryan, W. B.	Willow Brand	R. 3
Com-tock, Jas. A.	Greenfield	R. D	Stuart, A. A.	Fortville	R. 3
Daily, G. W.	Charlottesville	E. D	Stuart, J. G.	Fortville	R. D
Ely, J. M.	New Palestine	R. D	Saunders, J. K.	Fortville	R. 10
Ely, L. C.	New Palestine	R. D	Selman, J. W.	Greenfield	R. D
Howard, N. P.	Greenfield	R. D	Trees, Wm.	Warrington	R. 10
Howard, N. P., Jr.	Greenfield	R. D	Troy, S. A.	Milliners' Corner	R. D
Hanna, R. D.	Warrington	R. D	Trees, J. R.	Greenfield	R. D

Regular, 31; Eclectic, 3; Physio-Medical, 2; Not Reported, 2.

Harrison County.

Anderson, J. W.	Moberly	R. D	Kandie, Wm. A.	Laconia	R. 10
Baxter, John C.	Mauckport	R. D	LaFollette, Wm. P.	Motts Station	R. D
Bennett, James H.	New Amsterdam	R. D	Lawson, John E.	Corydon	R. D
Boston, C. H.	Bradford	P. M. R	Martin, G. F.	Corydon	R. D
Clark, Jacob	Corydon	R. D	Mitchem, Littleton	Crisp X Roads	R. 10
DANIEL, WM.	Corydon	R. D	Moore, Wm.	Rosewood	R. D
Davis, Wm. H.	New Middleton, R.	D	Neely, I. L.	Corydon	R. D
Denbo, Wm. R.	Mauckport	R. 10	Patterson, Robt. W.	Elizabeth	R. 10
Deen, H. K.	Central	R. D	Reader, W. H.	New Amsterdam	R. D
Ellie, Jos. E.	Bradford	R. 10	Siegler, R. R.	Ramsey	R. D
Finley, John F.	Palmyra	R. 10	Smith, A. E. L.	Corydon	R. D
Forbis, Frank	Laconia	R. D	Smith, Alvin E.	Corydon	R. D
Fouts, D. C.	New Salisbury	R. 10	Wirders, L. C.	Elizabeth	R. 10
Fouts, H. C.	Lanesville	R. D	Weddell, I. D.	Elizabeth	R. D
Funk, Z. T.	Corydon	R. D	Wolfe, Z. C.	Lanesville	R. D
Funkhouser, Wm. H.	Valley City	R. D	Wolfe, L. O. P.	Mauckport	R. D
Humer, Jacob	Lanesville	R. 10	Wolfe, Sam'l C.	Elizabeth	R. 6
Hopper, Isaac	DePauw	P. M. D	Wolpert, W. I.	Elizabeth	R. D
Hurst, S. H.	Laconia	R. 10	Zenor, J. W.	New Middleton, R.	10
Jones, A. M.	Corydon	R. D			

Regular, 37; Physio-Medical, 2.

Hendricks County.

Adams, Thomas J.	North Salem	R. D	House, Geo. H. F.	Clayton	R. D
Allen, John Q.	Plainfield	R. D	Hoadley, Wm. J.	Danville	R. D
Bartholomew, B.	Danville	R. D	Heavenridge, A.	Stilesville	R. D
Barker, Joel T.	Danville	R. D	Johnson, Oscar B.	Lizton	R. D
Brill, James H.	Pittsboro	R. D	Jessup, Maria A.	Friendswood	R. D
Brent, I. N.	Pittsboro	R. D	Kennedy, Leroy H.	Danville	R. D
Brooks, M. W.	Hazlewood	R. 3	Lawson, Wilson T.	Danville	R. D
Burk, Tighlman P.	Lizton	R. 3	Marsh, John L.	Brownburg	E. D
Carter, Amos	Plainfield	R. D	Morgan, Abram	Cartersburg	E. D
Cloud, C. F. C.	Pittsboro	R. 10	Martin, Simon	North Salem	R. D
Depew, M. F.	Danville	R. D	McKittrick, Albert	Brownburg	R. D
Dryden, Thomas F.	Clayton	R. E	Osborn, John A.	New Winchester	R. D
Davidson, Albert W.	Brownburg	R. D	Parker, M. G.	Danville	R. D
Evans, Thomas	Plainfield	R. D	Robbins, Wm.	North Salem	R. D
FAKABEE, C. E.	Danville	R. D	Ragan, John S.	Avon	R. D
French, John S.	Danville	R. D	Reagan, Jesse	Plainfield	R. D
Green, J. N.	Stilesville	R. D	Sanders, Louis A.	Lizton	R. D
Grimes, Wm. T.	Coatesville	R. 3	Seaton, Grafton N.	Cartersburg	R. D
Grimes, J. B.	North Salem	R. 10	Summers, Harvey C.	Amo	R. D
Graham, Thomas A.	Brownburg	R. D	Strong, John T.	Plainfield	R. D
Gilbert, A. K.	Clayton	R. D	Strong, Asa M.	Belleville	R. D
Hunt, Tighlman	Coatesville	R. D	Towles, Alfred N.	Danville	R. D
Hunt, Stephen	Coatesville	R. D	White, Charles A.	Danville	R. D
Huron, Frank H.	Danville	H. D	White, Wm. H.	Amo	R. D

Regular, 45; Homeopathic, 1; Eclectic, 2.

Henry County.

Name.	Post Office.	School.	Name.	Post Office.	School.
Bailey, G. D.	Spiceland	R. D	McKillip, J. H.	Snyder	R. 10
Bailey, Rachel S.	Spiceland	R. D	McSherry, J. L.	Sulphur Springs	R. D
Barrett, Omar H.	Knightstown	R. D	Mendenhall, E. T.	New Castle	R. D
BARTLETT, A. C.	New Castle	R. D	Newhouse, John T.	Sulphur Sp'gs	P. M. D
Bartlett, C. T.	Lewisville	R. D	Newby, Zimri	Greensboro.	R. 10
Bartlett, W. M.	Lewisville	R. 10	Newby, Nathan	Spiceland	P. M. D
Benedict, H.	Springport	R. 3	Norviel, R. D.	Mount Summit	R. D
Bond, C. W.	Cadiz	R. 10	Oalden, W. C.	Kennard	R. 10
Boor, W. A.	New Castle	R. D	Painter, Perry	Middletown	P. M. D
Boor, W. F.	New Castle	R. D	Pendleton, C. B.	Mechanicsb'g	P. M. D
Burke, G. W.	New Castle	R. D	Pickering, S.	New Lisbon	R. D
Clapper, D.	Moorland	H. D	Post, B. O.	Sulphur Spr'gs	R. D
Cochran, James	Spiceland	R. D	Rawlins, F. J. P.	Elizabeth City	R. D
Coffin, Oliver S.	Lewisville	R. D	Rawlings, John U.	Elizabeth City	R. 3
Cress, J. B.	Knightstown	R. D	Rea, Charles L.	Rogersville	R. D
Grouse, H. M.	Knightstown	R. D	Rea, John	New Castle	R. D
Eskew, W. C.	New Castle	R. D	Rodecap, Geo. W.	Middletown	H. D
Estabrook, L. W.	Springport	R. D	Rogers, Leroy	Kennard	R. D
Ferris, E. S.	Cadiz	R. 10	Rogers, S. G.	Mooreland	R. D
Ferris, S.	New Castle	R. D	Smith, Mary J.	Greensboro	P. M. D
Garrett, O. H.	Cadiz	R. D	Smith, R. A.	Greensboro	P. M. D
Gibbs, C. N.	New Lisbon	R. 10	Stafford, Charles A.	New Castle	P. M. D
Green, A. W.	Knightstown	R. D	Stafford, Daniel H.	New Castle	P. M. D
Griffis, Robert	Middletown	R. D	Stafford, J. A.	Millville	P. M. D
Gronendyke, O. J.	New Castle	R. D	Stafford, Horace	Stranghn's St.	P. M. D
Gronendyke, T. W.	New Castle	R. 3	Stanley, J. C.	Mount Summit	R. D
Guyer, O. K.	Lewisville	R. D	Thornburgh, Frank L.	Middletown	R. D
Hardesty, J. C.	Millville	R. D	Waters, S. C.	Middletown	R. D
Hess, F. P.	Cadiz	R. D	Wayman, J. C.	New Castle	P. M. D
Hobbs, Wilson	Knightstown	R. D	Weaver, John	Knightstown	R. 10
Hollinger, I. N.	Blountsville	R. 3	Weeks, Elizabeth J.	Mechan'burg	P. M. D
Holloway, Lizzie E.	Spiceland	H. D	Weeks, Joseph	Mechan'burg	P. M. D
Holloway, O. E.	Knightstown	R. D	Welsh, J. H.	Middletown	R. D
Hastings, A. N.	Knightstown	H. D	White, J. A.	Dunreith	R. D
Johnson, E. M.	Greensboro	R. D	Williams, H. D.	New Castle	P. M. D
Kirk, E. E.	Spiceland	R. D	Williams, J. B.	Honey Creek	P. D. D
Kissell, William	New Castle	R. 10	Winston, L. V.	Knightstown	R. D
Leavens, A. DeWolf	Middletown	P. M. D	Yockey, D. H.	Blountsville	R. 3
McGavran, W. B.	Knightstown	R. D			

Regulars, 53; Homeopathic, 4; Physio-Medical, 16; Eclectic, 4.

Howard County.

Armstrong, E. A.	Kokomo	R. D	Miller, H. C.	Ridgeway	R. D
Bates, A. V.	Kokomo	R. D	Miller, L. C.	Alto	R. D
Berst, Y. H.	Kokomo	R. D	Murray, S. T.	Greentown	R. 10
Bagwell, L. A.	Jerome	R. D	Moore, J. B.	Kokomo	R. D
Blount, R. B.	Kokomo	R. D	McClung, W. H.	Kokomo	R. D
Baker, F.	Kokomo	H. D	Newlin, S.	New London	R. D
Conner, Levi	Jerome	R. 3	Oiler, L. H.	Kokomo	R. D
Cooper, Wm.	Kokomo	R. D	Puckett, J. L.	Kokomo	R. D
Cooper, J. A.	Kokomo	R. D	Payton, W. B.	Greentown	R. D
Childs, Dr.	Greentown	R. D	Rice, E. C.	Oakford	R. D
Freeman, A. C.	Kokomo	R. 10	Ross, J. H.	Kokomo	R. D
Garr, J. O.	Kokomo	R. D	SMITH, R. H.	Kokomo	R. D
Gifford, T. V.	Kokomo	N. R. 10	Scott, Wm.	Kokomo	R. D
Hector, F. M.	Kokomo	R. D	Scott, G. B.	Greentown	R. D
Hull, W. H.	Center	R. D	Sawyer, E. W.	Kokomo	H. D
Hulbert, D.	Kokomo	N. R. 3	Shirley, D. J.	New London	R. 10
Kern, Tho	Kokomo	R. D	Thorne, J. C. F.	Kokomo	R. D
Kern, L.	Kokomo	R. D	Wright, J. W.	Kokomo	R. D
Kirkpatrick, J. B.	Kokomo	R. D	Wilson, R. Q.	Kokomo	R. D
Johnson, I. C.	Kokomo	R. D	Wave, C. W.	West Liberty	R. D
Moulder, J. M.	Kokomo	R. D	Woolley, C. A.	Kappa	R. D

Regular, 31; Eclectic, 6; Homeopathic, 2; not reported 2.

Huntington County.

<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>	<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>
Bulsford, Jas. W.	River	R. D	Lyons, W. B.	Huntington.	R. D
Bonifield, W. D.	Warren	R. D	Leyman, Emery H.	Huntington.	R. D
Barns, A. M.	West Point	R. D	Leyman, Daniel S.	Huntington.	R. D
Beaver, H. M.	Huntington.	R. D	Mitchell, Sam'l P.	Mt. Etna.	R. D
Crandles, Thomas	Majenica	R. D	Mackey, James L.	Warren	R. D
Chaffee, Wm. C.	Huntington.	R. D	McColgan, James	West Point	R. D
Chenowith, Geo. F.	Mt. Etna	R. D	McColgan, Robert	West Point	R. D
Carson, W. F.	Roanoke	R. D	McLin, Geo. H.	Huntington.	R. D
Fry, Chas. H.	Bracker	R. D	Palmer, E. W.	Warren	R. D
Fisher, E. S.	Markle	R. D	Scott, N. W.	Huntington.	R. D
Fish, W. S.	Hoboken	R. D	Severance, Lagrange	Huntington.	R. D
Good, Chas. H.	Warren	R. D	Searies, J. D.	Huntington.	R. 10
Grayston, F. C. S.	Huntington	R. D	Sprowl, John S.	Warren	R. D
Grayston, B. H. B.	Huntington.	R. D	Williams, O. B.	Andrews	R. 10
Grayston, Chas. E.	Huntington.	R. D	Wallace, Leroy S.	Hoboken	R. D
Gemmill, Henry C.	Markle	R. D	WRIGHT, IRVIN	Huntington.	R. D
Kemp, Jos. W.	Roanoke	R. 3	Wright, Chas. L.	Huntington.	R. D
Kilander, Wm. J.	Markle	R. D	Wall, Francis M.	Warren	R. D
Kuntz, Sylvester	Roanoke	R. D	Yingling, Daniel	Huntington.	R. D
Lyons, Ira E.	Huntington.	R. D	Young, Edward L.	Pleasant Plain	N. R. 10

Regular, 35; Eclectic, 2; Homeopathic, 2; Not Reported, 1.

Jackson County.

Anthony, James R.	Brownstown	R. D	McCormick, L. R.	Crothersville	R. D
Barnes, Geo. O.	Cortland	R. D	Newkirk, A. L.	Seymour	R. 10
Bard, T. S.	Crothersville	R. 10	Orvis, George Q.	Seymour	R. D
Cummings, David J.	Houston	R. D	Osterman, A. G.	Seymour	R. D
Cummings, Hiram A.	Mooney	R. 3	Ruddick, Lindley	Seymour	R. D
Charlton, Samuel H.	Seymour	R. 10	Richards, Thomas J.	Mooney	R. 10
Charles, Jasper N.	Tampico	R. D	Reed, E. P.	Ewing	R. 10
Casey, W. M.	Seymour	R. D	Shipman, N. N.	Seymour	R. D
Chute, George	Freetown	R. 10	Shields, J. T.	Seymour	R. 10
Converse, Elmer A.	Tampico	R. D	SHIELDS, JAS. M.	Seymour	R. D
Ewing, Francis M.	Vallonia	R. 10	Stillwell, Joseph A.	Brownstown	R. 10
Gerrish, Millard F.	Seymour	R. D	Shoemaker, Evan	Jaketown	N. R. 10
Gibson, G. W.	Houston	R. 10	Patrick, Charles E.	Seymour	R. D
Green, W. O.	Dudleytown	R. 10	Paxson, J. C.	Medora	R. D
Graessle, Geo. G.	Seymour	R. D	Tinch, E. T.	Ewing	R. D
Hunter, Chas. A.	Reddington	P.-M. D	Veasey, A. M.	Medora	R. D
Kyte, Henry R.	Cortland	P.-M. D	Veasey, T. R.	Seymour	R. D
Monroe, V. H.	Seymour	R. 10	Whitehead, W. E.	Brownstown	R. D
Manual, Grafton	Freetown	R. 10	Wells, James C.	Mooney	R. D
May, Albert	Crothersville	R. D	Warner, W. H.	Crothersville	R. D
McMillan, J. P.	Medora	R. 10	Wilson, M. V.	Medora	R. 10

Regular, 39; Eclectic, 1; Physio-Medical, 2; Not Reported, 1.

Jasper County.

Alter, Moses B.	Rensselaer	R. 3	LOUGHRIDGE, V. E	Rensselaer	R. D
Bitters, Frank P.	Rensselaer	R. D	Patton, David H.	Remington	R. D
Denning, James C.	Rensselaer	R. 10	Porter, James W.	Rensselaer	R. 10
Greve, Claus	Wheatfield	R. 10	Ramsey, J. P.	Remington	R. D
Hartsell, W. W.	Rensselaer	R. D	Reigle, Mac W.	Remington	R. 10
Jackson, Mary E.	Rensselaer	P.-M. D	Robins, Ira W.	Demotte	R. 3
Jones, C. V.	Kniman	R. D	Washburn, Israel B.	Rensselaer	R. D
Landon, Hannibal	Remington	R. D	Stockwell, Willard	Wheatfield	R. 10
Loughridge, James H.	Rensselaer	R. 10			

Regular, 15; Homeopathic, 1; Physio-Medical, 1.

Jay County.

Name.	Post Office.	School.	Name.	Post Office.	School.
Anderson, James M.	Dunkirk	R. 10	Milligan, A. A.	Portland	P.-M. D
Arthur, C. S.	Portland	R. 3	Morehouse, J. A.	Portland	P.-M. D
BROWN, H. V.	Portland	R. D	Mincks, F. W.	Portland	H. 3
Bosworth, J. M.	Pennville	R. D	Miles, J. T.	Briant	R. D
Blackledge, L. N.	Pennville	E. D	Munsey, Samuel E.	New Mt. Pleas't	R. 10
Blackledge, A. J.	Pennville	E. D	Mason, Samuel	Pennville	R. D
Cleavenger, B. J.	Red Key	R. D	Neal, William	Salamonia	R. D
Connor, Norris F.	Red Key	E. D	Poling, S. K.	Portland	E. D
Crouch, Nathaniel W.	Dunkirk	N. R. 10	Ross, John G.	Portland	E. D
Dickes, Philip	Boundary	R. D	Rarick, Isaac N.	Bluff Point	P.-M. D
Dickes, J. T.	Portland	R. D	Ralston, Augustus	New Corydon	R. D
Davis, R. P.	Portland	R. D	Sims, I. G.	Portland	R. D
Fertich, Geo. W.	Dunkirk	R. D	Shepherd, T. S.	Portland	R. 10
Glentzer, M. A.	Briant	E. 10	Shepherd, G. W.	Red Key	R. 10
Gillum, S. A. D.	Portland	R. 3	Sage, Ira T.	Red Key	E. 10
Hutchens, H. C.	Portland	E. 10	Stiers, Francis R.	Red Key	E. D
Hall, J. W.	Portland	R. D	Skinner, David T.	Salamonia	E. D
Horn, W. C.	Pennville	R. D	Stanton, David S.	Portland	R. 10
Hutchinson, Jas. A.	Salamonia	R. D	Selvey, S. S.	Dunkirk	R. D
Kidder, J. F.	New Mt. Pleas't	K. 10	Vail, Isaac M.	Portland	E. D
Kinsey, David S.	Portland	R. 3	White, T. C.	Powers	N. R. 10
Landis, W. H.	Como	R. D	White, J. K.	Pennville	R. D
Mackey, C. W.	Portland	R. D			

Regular, 28; Eclectic, 11; Homeopathic, 1; Physio-Medical, 3; not reported, 3.

Jefferson County.

Brengle, J. S.	Hanover	R. 10	Lewis, J. F.	Dupont	R. D
Burdsal, Chas. A.	Lancaster	R. 3	Lewis, Geo. B.	Dupont	R. D
Cooperider, J.	Madison	R. D	Lewis, Sam'l B.	Canaan	R. D
Christie, J. H.	Canaan	R. D	Lefebver, Jas. M.	Graham	R. D
Cogley, T. J.	Madison	R. D	Matthews, Jas. H.	Madison	R. D
Cornett, W. T. S.	Madison	R. D	McCOY, W. M. A.	Madison	R. D
Chastine, Harvey W.	Big Creek	R. D	McCarty, W. W.	Canaan	R. D
Copeland, C. C.	North Madison	R. D	Muret, Jas. A.	Madison	R. D
Dixon, Z. C.	Deputy	R. 3	Penn, Ben. A.	Bryantsburg	E. D
Davidson, Wm. R.	Madison	R. D	Ryker, Chas.	Manville	R. D
Forshee, T. W.	Madison	R. D	Reynolds, Geo. E.	Kent	R. D
Ford, S. M.	Madison	R. D	Reynolds, John H.	Wirt	R. 10
Flanders, J. W.	Dupont	R. D	Rawlings, J. V.	Wirt	R. D
Fruman, Wm.	Madison	R. D	Smith, Edwin M.	Wirt	N. R. 10
Gaylord, H. G.	Hanover	R. D	Sanderson, Thos.	Madison	R. D
Hutchings, W. D.	Madison	R. D	Swan, Tyrus E.	Kent	R. D
Hutchinson, Jos. B.	Madison	H. D	Shetterly, W. R.	Dupont	R. D
Hewitt, G. H.	Madison	R. D	Townsend, S. M.	Madison	R. D
Johnson, A. H.	Chelsea	R. D	Tevis, R. M.	Brooksburg	R. D
Julian, Paris.	Swanville	N. R. 10	Tevis, E. R.	Brooksburg	R. D
Lewis, Jas. R.	Madison	R. D	Wadsworth, Chas.	Madison	R. D
Lewis, Geo. C.	Madison	R. D	Rogers, Leroy	Hanover	E. D

Regular, 38; Homeopathic, 1; Eclectic, 2; not reported, 2.

Jennings County.

Adams, S. D.	Brewersville	R. 10	Lawrence, Wm. L.	Scipio	E.
Amick, C. C.	Hayden	R. D	Light, A. B.	North Vernon	R. D
Case, W. W.	Zenas	R. D	Lefebver, James M.	Lovett	R. D
Coryea, F. M.	Zenas	E. 10	Mitchell, W. J.	Vernon	R. D
Coryell, D. R.	Vernon	R. D	Nelson, H. G.	Vernon	R. D
Firsich, B.	North Vernon	N. R. 10	Nighswander, M.	Hayden	R. D
Fall, W. R.	North Vernon	R. D	Phillips, Chas. M.	Scipio	R. D
Gaddy, N. D.	Lovett	R. D	Russell, Benj. F.	Paris	R. D
Gaddy, Orville	Paris Crossing	R. D	Richardson, W. H.	Vernon	R. D
Green, C. H.	North Vernon	R. 10	Richardson, N.	Vernon	R. D
GREEN, J. H.	North Vernon	R. D	Reamy, W. H.	Zenas	N. R. D
Grahn, E. G.	North Vernon	H. 10	Steurm, W. H.	North Vernon	R. D
Hicks, B. R.	North Vernon	P.-M. D	Shepherd, J. F.	Queensville	R. 10
Hanna, J. L.	Paris Crossing	R. D	Wildman, W. H.	San Jacinto	R. D
Kendrich, N. C.	Butlerville	R. 10			

Regular, 23; Eclectic, 2; Homeopathic, 1; Physio-Medical, 1; not reported, 2.

Johnson County.

<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>	<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>
Adams, J. H.	Amity	R. 10	Miller, A.	Whiteland	R. D
Adams, David	Edinburg	E. D	Miller, D. H.	Franklin	R. D
Beebe, James.	Whiteland	R. 10	Middleton, Jno.	Nineveh	R. D
Bland, Jno. A.	Edinburg	R. D	Marshall, J. H.	Nineveh	R. 3
Byers, R. S.	Trafalgar	R. D	Maze, V. B.	Needham	R. D
Burgett, D. A.	Rock Lane	R. D	Noble, T. B.	Greenwood	R. 10
Covert, G. W.	Franklin	R. 3	Ott, L. E.	Franklin	R. D
Carnes, Zachariah	Greenwood	R. D	Payne, P. W.	Franklin	R. D
Cravens J. R.	Franklin	R. 3	Payne, C. A.	Franklin	R. D
Donnell, J. H.	Franklin	R. 10	Province, W. M.	Providence	R. D
Donnell, T. C.	Franklin	R. D	Paine, Luther	Edinburg	E. D
Dobyns, P. K.	Whiteland	R. D	Quick, R. S.	Edinburg	E. D
David, A. T.	Edinburg	R. 10	Rush, W. P.	Edinburg	R. D
Farris, J. T.	Bargersville	R. D	Ream, J. B.	Trafalgar	R. D
Fisher, J. C.	Needham	R. D	Saddler, J. J.	Edinburg	R. D
George, W. E.	Franklin	H. D	Telford, W. E.	Bargersville	R. D
Gillaspie, F. P.	Stone's Cross'g	R. D	Wood, J. C.	Franklin	R. D
Hall, W. C.	Franklin	R. D	Wishard, J. M.	Greenwood	R. U
Hall, H. J.	Franklin	R. D	Wallace, B.	Franklin	R. D
Hibbs, Irwin	Nineveh	R. 10	Willan, E. B.	Trafalgar	R. D
Jones, J. T.	Franklin	R. D	Willan, R. D.	Trafalgar	R. D
Kegley, Jno. L.	Stone's Cross'g	R. 3	Wright, A. F.	Nineveh	R. D
Lanam, J. H.	Edinburg	R. D	WHITESIDES, L. L.	Franklin	R. D
Lee, D. F.	Providence	R. D			

Regular, 43; Homœopathic, 1; Eclectic, 3.

Knox County.

Alexander, James F.	Bruceville	R. D	Keith, Benj. F.	Edwardsport	R. D
Allen, J. L.	Vincennes	H. D	Kessinger, Wm. E.	Sanborn	R. D
Boyer, Eli	Vincennes	R. D	Lytton, Jefferson	Wheatland	R. 3
Beard, F. W.	Vincennes	R. D	Martin, Zadock G.	Bicknell	R. D
Beard, Schuyler C.	Vincennes	R. D	Merritt, James M.	Oaktown	R. 3
Beckes, Lyman M.	Vincennes	R. D	McDowell, James M.	Bruceville	R. D
Bedell, W. B.	Vincennes	R. D	McDowell, L. C.	Freelandsville	R. D
Ballard, Joseph H.	Vincennes	R. D	McGahy, A. J.	Freelandsville	R. D
Bever, John C.	Vincennes	P. M. 3	Meyer, H. N. H.	Freelandsville	E. 10
Bever, Almira C. W.	Vincennes	E. D	Medcalf, Wm. M.	Vincennes	H. D
Bugg, J. F.	Vincennes	R. 10	Moore, R. G.	Vincennes	R. D
Black, Elijah C.	Wheatland	R. 3	Pearce, A. B.	Vincennes	R. D
Benham, C. W.	Wheatland	R. D	Robbins, J. F.	Freelandsville	R. 10
Cross, John F.	Vincennes	R. 3	Ray, Joel W.	Emison	P. M. D
DuKate, John S.	Monroe City	R. D	Reeves, Joseph L.	Edwardsport	R. D
DuKate, John B. D.	Wheatland	R. D	Ricketts, R. R.	Red Cloud	R. 10
Davis, Royse	Decker	R. D	SWARTZEL, J. A.	Vincennes	R. D
Davenport, W. H.	Vincennes	R. D	Smith, H. W.	Vincennes	R. D
Edmondson, G. W.	Vincennes	R. D	Skelton, L. S.	Vincennes	E. D
Fairhurst, O' C. C.	Monroe City	R. D	Staley, L. B.	Bicknell	R. D
Grigsby, Wm. B.	Oaktown	R. D	Spaulding, Geo. L.	Sanborn	R. D
Harris, Francis M.	Vincennes	R. D	Sparks, N. B.	Monroe City	R. 10
Harris, Wm. B.	Vincennes	R. D	Sprinkle, W. B.	Oaktown	R. D
Hensley, John H.	Vincennes	R. D	Shirts, Edward	Sanborn	R. D
Harrison, Sam'l L.	Vincennes	R. 3	Stringle, Walter		R. D
Hunt, Thomas J.	Decker	R. D	Trout, Robert E.	Oaktown	R. D
Jones, Wm. R.	Bicknell	R. D	Trueblood, J. W.	Monroe City	R. 3
Jessup, Robert B.	Vincennes	R. D	Von Trees, E. C.	Monroe City	R. D
Jessup, Robert B., Jr.	Vincennes	R. D	Williams, Jas. T.	Monroe City	E. D

Regular, 50; Eclectic, 4; Homeopathic, 2; Physio-Medical, 2.

Kosciusko County.

Name.	Post Office.	School.	Name.	Post Office.	School.
Amis, James L.	Silver Lake.	R. D	Ketcham, Geo.	Claypool	R. D
Abbott, Hanson B.	Etna Green	10	Kelly, Wm. M.	Etna Green.	R. D
Arnold, Chas. O.	Leesburgh	P.-M. D	Keplinger, Wm	Burkett	10
Byler, Joseph M.	Warsaw	H. D	Love, J. W.	Millwood.	10
Bowser, John H.	Syracuse	R. D	Leech, Rich. V.	Oswego.	R. D
Bash, J. M.	Warsaw	R. D	Leiter, Wm. S.	Packerton.	R. D
Burkett, C. W.	Warsaw	R. D	LONG, CHAS. R.	Piercetion.	R. D
Becknell, I. J.	Milford	R. D	Marine, John W.	Etna Green	P.-M. D
Burkett, Benj.	Warsaw	R. D	Moro, Francis	Warsaw	E. D
Boydston, Benj. S.	Atwood	R. 10	Moody, Theo. F.	Piercetion.	R. D
Biglow, Seth G.	Silver Lake	R. 3	Parks, John P.	Atwood.	R. D
Brackett, B. D.	Claypool	R. D	Pearman, Francis M.	Palestine.	R. D
Burkett, Wm. B.	Clunette	R. 10	Parker, James W.	Oswego.	Rt. Dr. 10
Blair, David	Silver Lake	10	Robison, Andrew B.	Mentone	R. D
Chandler, Joseph A.	Warsaw	R. D	Robison, Sarah H.	Warsaw	E. 10
Clayton, Calvin M.	Warsaw	10	Renolds, Winfield S.	Sevastapool	R. D
Cammack, Calvin M.	Milford.	R. D	Snodgrass, Sam'l J.	Burkett	P.-M. D
Dick, Milford L.	Wooster	P.-M. D	Swyhart, Anna.	Warsaw	P.-M. D
Frost, R. Fred	Warsaw	I. Dr. D	Sherbundy, Geo. W.	Silver Lake	R. 3
Hazel, John B.	Claypool	R. D	Schoonover, Wm. R.	Warsaw	R. D
Hefly, John W.	Mentone	E. D	Smith, James S.	Warsaw	P.-M. D
Hoopingamer, G. B.	Sidney	R. D	Scot, Wm.	Sidney	R. 10
Hathfield, Thos. J.	Piercetion.	Rt. Dr. 10	Shackelford, T. J.	Warsaw	R. D
Hoover, John S.	Gravelton	R. D	Strain, Theo. W.	Silver Lake	R. 10
Hoopingamer, J. B.	Sidney	R. D	Stockburger, E.	Mentone	R. 3
Hathfield, W. J.	North Webster	R. D	Terry, Percy E.	Silver Lake	R. 10
Inrig, Francis M.	Syracuse	E. D	Terry, Daniel E.	Silver Lake	R. 10
Junkin, Sam'l B.	North Webster	R. 10	Tenant, Louis H.	Sidney	E. D
Johnston, E. E.	Leesburgh	R. D	Terry, Q. B.	Warsaw	E. D
Johnson, A. R.	Piercetion	H. 10	Trisidder, James T.	Warsaw	Hyd. D
Jameson, Martha E.	Warsaw	E. D	Wooley, Amos	Warsaw	R. 10
King, Hyram O.	Piercetion	R. D	Webber, Irvin B.	Warsaw	R. 10
Kelly, David C.	Millwood	10	Wall, James L.	Beaver Dam	P.-M. D
Kechn, Levi	Milford.	H. 10	White, R. Parks	Warsaw	R. D

Regular, 41; Homeopathic, 2; Eclectic, 4; Physio-Medical, 6; not reported, 6.

Lagrange County.

Broughton, F. H.	Wolcottville	R. D	Price, Henry B.	Woodrough	R. D
Benham, F. A.	Lagrange.	H. D	Raby, William	Wolcottville	E. 10
Dryer, D. W.	Lagrange.	R. D	Rawls, John W.	Mongo	R. 10
Dayton, G. H.	Lima	R. D	Schrock, Henry W.	Shipsheawanna	R. D
Dancer, John	South Mulford	R. D	Schrock, J. J.	Emma	R. D
Engle, Jacob B.	Lagrange.	R. 10	Short, John L.	Lagrange.	R. D
Eash, Samuel M.	Shipsheawanna	R. D	Short, W. H.	Lagrange.	R. D
Ferguson, W. A.	Brighton	R. D	Spalding, A. M.	Brush Prairie	R. 10
Grubb, W. B.	Scotts.	R. 10	Toms, Alpheus	Scotts.	R. D
Goodrich, Chas. D.	Lima	R. D	Vaughn, Iris	Hawpatch	R. D
Griffith, F. P.	Lagrange.	R. D	White, Edward G.	Lagrange.	R. D
Hughes, William	Lima	R. D	Waddell, Chas.	Lagrange.	R. D
Heslip, James M.	Mt. Pisga	E. 10	WYATT, A. R.	Lagrange.	R. D
Hull, Jacob	Lagrange.	E. D	Younkins, Jerome W.	Wolcottville	R. 10

Regular, 24; Homeopathic, 1; Eclectic, 3.

Lake County.

Bacon, E. R.	Lowell	R. D	Mackey, Richard	Deep River	E. D
Bliss, M. G.	Crown Point	E. D	Merrill, Warren W.	Hammond	R. D
BRANNON, G. D.	Crown Point	R. D	Mullen, Hugh E.	Hammond	R. D
Davis, John E.	Lowell	R. D	Pettibone, Harvey	Crown Point	R. 3
Gibbs, James C.	Crown Point	H. D	Pettibone, Henry	Crown Point	R. D
Gray, Frank P.	East Chicago	R. D	Pratt, A. J.	Crown Point	R. D
Groman, Charles	Brunswick	H. 10	Reading, A. H.	East Chicago	E. D
Gordon, P. P.	Hobart	R. D	Reading, Rose	East Chicago	E. D
Gerrish, A. A.	Lowell	R. D	Schreiber, Wm.	Hanover Center	E. D
Higgins, John	Crown Point	R. D	Schroeder, N. J.	Hobart	R. D
Hill, Jesse L.	Lowell	R. D	Seidler, Anthony	Dyer	R. 10
Heuston, D. P.	Dyer	R. D	Swartz, H. P.	Crown Point	R. 10
Iddings, Homer L.	Merrillville	E. D	Turner, Sam	Hobart	R. D
King, Charles W.	Hammond	E. 3	Wood, J. A.	Lowell	R. 10

Regular, 18; Homeopathic, 2; Eclectic, 8.

Laporte County.

Name.	Post Office.	School.	Name.	Post Office.	School.
Annis, E. L.	Laporte.	R. D	Hollenbeck, B. W.	Westville.	R. 3
Andrew, Geo. L.	Laporte.	R. D	Holloway, A. L.	Michigan City.	E. D
Brown, D. T.	Michigan City.	R. D	Keene, L. S.	Laporte.	R. D
Bowell, B. C.	Rolling Prairie.	E. D	Lambert, J. N.	Laporte.	R. D
Crumpacker, D. S.	Union Mills.	R. 10	Martin, J. S.	Rolling Prairie.	R. 10
Cole, E. Z.	Michigan City.	H. D	Meyer, J. H. Wm.	Laporte.	R. D
Calvert, R. H.	Michigan City.	R. D	Mullen, A. J., Jr.	Michigan City.	R. D
Combs, Thos. W.	Westville.	H. D	Rogers, E. A.	Laporte.	R. D
CRANDALL, R. O.	Laporte.	R. 10	Stevens, Mrs. M. A.	Laporte.	E. D
Darling, N. S.	Laporte.	R. D	Short, R. B.	Union Mills.	R. D
Dakin, Geo. M.	Laporte.	E. D	Tillotson, A. G.	Michigan City.	R. D
Ellsworth, H. N.	Kingsburg.	R. D	Wilcox, Frank T.	Laporte.	R. D
Fisher, W. H.	Wanatah.	R. D	Whiting, S. C.	Laporte.	H. D
Fravel, T.	Westville.	R. D	Wilson, W. B.	Rolling Prairie.	E. 10
Fahnestock, C. S.	Laporte.	H. D	Wile, Jacob.	Laporte.	R. D
Fahnestock, A. A.	Laporte.	H. D	Warren, O. R.	Otis.	R. D
Godfrey, W. R.	Michigan City.	R. D			

Regular, 22; Eclectic, 6; Homeopathic 5.

Lawrence County.

Allen, Edward F.	Fayetteville.	R. 10	Larkin, John B.	Mitchell.	R. D
Allen, J. T.	Mitchell.	R. D	LaFORCE, H. C.	Bedford.	R. D
Burton, Wm. A.	Mitchell.	R. D	Laughlin, Charles E.	Mitchell.	R. D
Burton, Geo. W.	Mitchell.	R. D	Lowder, Cyrus.	Springville.	R. 3
Burton, John.	Georgia.	R. 10	McDonald, A. J.	Bedford.	R. D
Bare, Addison W.	Bryantville.	R. D	McIntyre, E. S.	Mitchell.	R. D
Butler, W. C.	Heltonville.	R. 3	McLaughlin, Oliver.	Guthrie.	R. 10
Berry, Alfred F.	River Vale.	R. 3	Meadows, Jacob.	Bartlettville.	R. 10
Brown, George S.	Bedford.	R. D	Mitchell, Elijah E.	Avoca.	R. D
Dixon, Henry C.	Tunnelton.	R. D	Newland, Wesley J.	Bedford.	R. D
Donica, Thomas M.	Tunnelton.	R. 10	Pearson, James C.	Mitchell.	R. D
Ellison, W. T.	Heltonville.	R. D	Phipps, Madison John.	Bedford.	R. D
Faubion, James.	Heltonville.	R. 10	Powell, James E.	Huron.	R. D
Faucett, John H.	Bedford.	R. D	Rariden, S. A.	Bedford.	R. 10
Freeland, John T.	Bedford.	R. D	Rariden, Chas. E.	Bedford.	R. D
Gardner, Joseph.	Bedford.	R. D	Smith, Wm. H.	Leesville.	R. 10
Hunter, Shelton F.	Fort Ritner.	R. D	Smith, Spencer W.	Leesville.	R. D
Hornocker, Simon D.	Silverville.	R. 10	Voyles, Harvey.	Fayetteville.	R. D
Hon. B. J.	Bedford.	R. D	Yost, J. L. W.	Mitchell.	R. D
Judah, Winepark.	Bedford.	R. 10	Yandell, Wm.	Huron.	R. 10

Regular, 40.

Madison County.

Armington, J. L.	Chesterfield.	N. R.	Ebert, J. D.	Dundee.	R. D
Armington, C. L.	Chesterfield.	R. 3	Edwins, S. W.	Frankton.	R. D
Atherton, R. M.	Anderson.	H. D	Fussell, L. B.	Markleville.	R. D
Armfield, J. D.	Elwood.	R. D	French, W. J.	Frankton.	R. D
Alexander, H. E.	Pendleton.	R. D	Fairfield, W. H.	Anderson.	R. D
Armington, J. G.	Chesterfield.	R. D	Fairfield, Nellie.	Anderson.	R. D
Ardery, Oscar.	Anderson.	R. D	Feisher, A. W.	Anderson.	R. D
Barns, D.	Anderson.	R. D	Fallis, A. G.	Summitville.	R. D
BRANCH, C. N.	Anderson.	R. D	Garritson, W. M.	Perkinsville.	R. D
Brown, Oliver.	Moonsville.	R. D	Guisinger, —	Florida.	P. M. D
Brown, Martin.	Summitville.	R. D	Ginn, J. E.	Elwood.	R. D
Brickley, W. P.	Anderson.	P. M. D	Graham, J. J.	Lapelle.	R. D
Brownback, O. W.	Pendleton.	R. D	Harter, Wm. P.	Anderson.	R. 3
Burr, C. S.	Anderson.	R. D	Hunt, J. W.	Anderson.	R. D
Chittenden, Geo. W.	Anderson.	R. D	Huston, A. S.	Anderson.	P. M. D
Coverston, J. W.	Frankton.	R. 10	Harter, J. H.	Anderson.	R. 3
Calloway, B. T.	Elwood.	R. 10	Hilligoss, G. H.	Anderson.	R. 3
Crane, M. G.	Summitville.	N. R. 10	Hougham, J. S.	Perkinsville.	E. 3
Cook, Ward.	Pendleton.	R. D	Horm, Wm. N.	Anderson.	R. D
Chiles, B. F.	Frankton.	P. M. D	Hamilton, F. M.	Alexandria.	R. D
Cullen, J. C.	Anderson.	R. D	Hammond, Jno.	Anderson.	N. R. D
Cook, D.	Fishersburg.	R. 10	Jones, H. E.	Anderson.	R. D
Cook, J.	Orestes.	R. 3	Jones, J. D.	Lapelle.	N. R. D
Clymer, D. H.	Elwood.	R. 10	Kelley, J. D.	Anderson.	R. D
Clymer, D. C.	Elwood.	R. 10	Kneals, W. W.	Anderson.	R. D
Diven, C. E.	Perkinsville.	R. D	Lewis, W. H.	Pendleton.	R. D
Davidson, J. W.	Pendleton.	P. M. 10	Line, L. C.	Alexandria.	N. R. D
Davis, J. W.	Anderson.	P. M. D	McGranahan, —	Anderson.	R. D

Madison County—Continued.

Name.	Post Office.	School.	Name.	Post Office.	School.
McNutt, G. T.	Elwood	R. D	Sigler, D.	Elwood	R. D
Moore, J. R.	Lapelle	N. R. D	Swallow, G. E.	Summitville	R. D
Morgan, Gillman	Gillman	R. 10	Sims, T. S.	Elwood	E. 10
Marlon, A. F.	Summitville	P. M. D	Saunders, J.	Anderson	R. D
Manville, J. H.	Columbus	N. R.	Sears, A. H.	Anderson	H. D
Nuzum, D. P.	Elwood	E. 3	Shafer, A. R.	Anderson	E.
Perry, A. J.	Alexandria	R. 3	Spann, B. F.	Anderson	R. D
Pry, J. W.	Alexandria	R. D	Taylor, H. W.	Anderson	E. D
Pugh, J. W.	Alexandria	R. 3	Taylor, H. W.	Anderson	H. D
Petro, B. G.	Markleville	R. 10	Van Meter, I. H.	Florida	R. 3
Pratt, C. C.	Ovid		Van Nuy, Wm.	Anderson	R. D
Pre-ton, G. T.	Anderson	R. D	Walters, L. P.	Anderson	R. D
Rogers, Ellen	Pendleton	H. 10	Wickersham, N.	Anderson	R. D
Redding, —	Anderson	P. M. D	Wright, C. R.	Linwood	R. D
Rider, D. M.	Anderson	R. D	Willson, S. C.	Anderson	R. D
Riggs, —	Linwood	N. R.	White, F. W.	Summitville	N. R. D
Stewart, Jones	Anderson	R. D	White, J. W.	Summitville	N. R. D
Stuart, —	Linwood	R.			

Regular, 54; Homeopathic, 5; Eclectic, 3; Physio-Medical, 8; not reported, 11.

Marion County.

Abbett, Chas. H.	Indianapolis	E. 3	Brown, Samuel M.	Gallaudet.	R. 10
Abbett, Francis M.	Indianapolis	E. D	Browne, Henry J.	Indianapolis	R. D
Abbett, Samuel	Indianapolis	P. M. D	Browning, Wm. J.	Indianapolis	E. D
Adams, Abbie M.	Indianapolis	R. D	Browning, Wm. M.	Indianapolis	R. D
Adams, Mary E.	Indianapolis	P. M. D	Brumbraker, A. S.	Indianapolis	R. D
Allen, Horace R.	Indianapolis	R. 3	Bryan, Thos. N.	Indianapolis	R. D
Allen, Wesley	West Newton	R. D	Bryan, David C.	Indianapolis	R. D
Anderson, Jas. E.	Indianapolis	R. D	Bryant, James	Indianapolis	N. R. 10
Andrews, V. E.	Indianapolis	R. D	Brynes, Daniel C.	Indianapolis	R. D
Anthony, Emanuel	Indianapolis	P. M. D	Bryson, Rachel A.	Indianapolis	P. M. D
Anthony, Elisha G.	Indianapolis	P. M. D	Burford, J. T.	Indianapolis	E. D
Bacon, Edgar H.	Indianapolis	H. 10	Butterfield, W. W.	Indianapolis	R. D
Baker, A. B.	Indianapolis	E. D	Butterfield, S. A.	Indianapolis	R. D
Ball, Addison W.	Indianapolis	R. D	Cain, J. C.	Haughville	R. D
Ballard, Joseph	Indianapolis	R. D	Campbell, Levi S.	Indianapolis	R. D
Barbour, E. P.	Indianapolis	R. D	Cameron, J. J.	Indianapolis	R. D
Barnes, Chas. A.	Southport.	R. D	Canada, J. L.	Indianapolis	R. D
Barnes, Henry F.	Indianapolis	R. D	Canfield, S. C.	Indianapolis	R. D
Barnes, Author.	Southport.	R. D	Canter, S. J.	Indianapolis	R. D
Barnhill, T. J.	Irrington.	R. D	Carter, H. W.	Indianapolis	R. D
Barrett, Jas. L.	Indianapolis	N. E. —	Carter, H. C.	Indianapolis	R. D
Bartrum, C. E.	Indianapolis	E. D	Carter, Jas.	Indianapolis	R. 3
Bates, Joseph W.	Broad Ripple.	R. D	Carter, Nathan P.	Mapleton.	R. D
Baughman, S. S.	Indianapolis	R. D	Carey, Geo. A.	Indianapolis	R. D
Beck, Wm. S.	Indianapolis	R. D	Cary, E. E.	Indianapolis	R. D
Bedford, C. T.	Indianapolis	P. M. D	Carson, L. O.	Trader's Point.	R. D
Beebinger, John	Cumberland	R. D	Carson, Wm. D.	Bridgeport.	R. D
Bell, Guido.	Indianapolis	R. D	Casel, L. B.	Indianapolis	R. 3
Bennett, Peter S.	Indianapolis	R. 10	Carvin, James M.	Indianapolis	(?) 10
Bentley, W. R.	Indianapolis	H. D	Cable, Geo. A.	New Augusta.	R. D
Bigger, Robert H.	Indianapolis	R. D	Chittwood, G. R.	Indianapolis	R. D
Bigger, Richard T.	Indianapolis	R. D	Clark, Wm. H.	Indianapolis	R. D
Blitz, A.	Indianapolis	R. D	Clammer, F. O.	Indianapolis	H. D
Bobbs, Andrew J.	Indianapolis	R. D	Cline, L. C.	Indianapolis	R. D
Boland, K. H.	Indianapolis	R. D	Cloud, Caleb S.	Indianapolis	(?) 10
Boots, D. W.	Indianapolis	E. D	Churchill, John C.	Indianapolis	R. D
Bowers, D. W.	Indianapolis	P. M. D	Combs, Geo. W.	Indianapolis	R. D
Bowers, John V.	Millersville.	R. D	Comings, John A.	Indianapolis	R. D
Boyce, L. E.	Millersville.	R. D	Cole, J. J.	Indianapolis	R. D
Boyd, Jas. T.	Indianapolis	H. D	Cook, Geo. J.	Indianapolis	R. D
Boyd, L. E.	Indianapolis	R. D	Collins, Wm. F.	Cumberland	R. 10
Boyd, Wilbur A.	Indianapolis	R. D	Compton, J. A.	Indianapolis	H. D
Brayton, Alembert	Indianapolis	R. D	Conner, Wm. H.	Indianapolis	R. 10
Brennan, Edward J.	Indianapolis	R. D	Cooper, Chas. A.	Indianapolis	(?) 10
Briggs, Elmer	Indianapolis	H. D	Cooper, Wm. C.	Indianapolis	E. D
Blu, Ulrich L.	Indianapolis	E. 10	Cory, Andrew F.	Oaklandon	E. D
Brown, E. L.	Brightwood.	R. D	Cox, Joseph	Indianapolis	R. D
Brown, C. Coryden	Gallaudet.	H. D	Cress, John B.	Indianapolis	E. D
Brown, Geo. J.	Indianapolis	R. 3	Crist, D. O.	Indianapolis	R. D
Brown, John R.	Insane Hospital	R. D	Cross, S. E.	Indianapolis	R. D
Brown, John S.	Indianapolis	R. 3	Culver, Thos. M.	Indianapolis	E. D
Brown, Josiah L.	Indianapolis	R. D	Cunningham, H. S.	Indianapolis	R. D

Marion County—Continued.

Name.	Post Office.	School.	Name.	Post Office.	School.
Curry, Thos. W. . . .	Southport. . . .	R. D	Hettinger, J. B. . . .	Indianapolis. . . .	(?) D
Daniels, E. A. . . .	Indianapolis. . . .	R. D	Hibben, Julia	Indianapolis. . . .	R. D
Darrach, Geo. W. . . .	Cumberland. . . .	R. D	Hinshaw, Thos. . . .	Nora. . . .	R. D
Daugherty, John H. . .	Irvington. . . .	R. D	Hodges, Edwin F. . .	Indianapolis. . . .	R. D
Davidson, J. C. . . .	Indianapolis P. M. . .	D	Holland, E. A. . . .	Indianapolis. . . .	R. D
Davidson, G. U. . . .	Indianapolis P. M. . .	D	Hopkins, A. G. . . .	Indianapolis. . . .	R. D
Davis, R. A. . . .	Indianapolis. . . .	R. D	Houser, James A. . .	Indianapolis. . . .	R. D
Davis, Wm. C. . . .	Indianapolis. . . .	R. D	Hoover, John E. . . .	Indianapolis. . . .	R. D
Davis, Jacob A. . . .	Indianapolis P. M. . .	D	Hoss, Jacob V. . . .	Indianapolis. . . .	R. D
Deitch, O. L. . . .	Indianapolis. . . .	R. D	Howard, Edward. . .	Indianapolis. . . .	R. D
Deitch, O. S. . . .	Indianapolis. . . .	R. D	Hurley, M. E. . . .	Indianapolis. . . .	E. 3
Denkewalter, F. W. . .	Indianapolis. . . .	R. D	Jameson, P. H. . . .	Indianapolis. . . .	R. D
Denson, H. A. . . .	Indianapolis. . . .	R. D	Jameson, Henry. . . .	Indianapolis. . . .	R. D
DePuy, A. H. . . .	Indianapolis. . . .	E. D	Jeffries, W. E. . . .	Indianapolis. . . .	R. D
Divens, C. W. . . .	Indianapolis. . . .	E. D	Jones, Stephen. . . .	Indianapolis. . . .	R. D
Dudley, H. A. . . .	Indianapolis. . . .	R. D	Johnson, R. . . .	Indianapolis. . . .	R. D
Duncan, Hiram. . . .	Indianapolis. . . .	R. D	Johnson, W. H. . . .	Brightwood. . . .	R. D
Dunlap, John M. . . .	Indianapolis. . . .	R. D	Jennings, D. B. . . .	Indianapolis. . . .	R. D
Dunning, L. H. . . .	Indianapolis. . . .	R. D	Jordan, Jno. S. . . .	Indianapolis. . . .	R. D
Dunning, James H. . .	Indianapolis. . . .	R. D	Jordan, L. W. . . .	Indianapolis. . . .	H. D
Duzan, G. N. . . .	Indianapolis. . . .	R. D	Karstitter, Wm. B. . .	N. Indiana'lis. . .	R. D
Earp, S. E. . . .	Indianapolis. . . .	R. D	Keen, Daniel V. . . .	Indianapolis. . . .	R. D
Eastman, Joseph. . . .	Indianapolis. . . .	R. D	Kendal, R. A. . . .	Indianapolis. . . .	R. D
Ebberts, J. A. . . .	Indianapolis. . . .	R. D	Kennedy, John Y. . .	Acton. . . .	R. D
Edenbarter, G. S. . . .	Indianapolis. . . .	R. D	Knap, W. H. . . .	Indianapolis. . . .	E. D
Egolf, H. M. . . .	Indianapolis. . . .	R. D	Knight, O. C. . . .	Indianapolis. . . .	E. D
Eisenbeiss, E. N. . . .	Indianapolis. . . .	R. D	Keller, Christopher. .	Indianapolis. . . .	R. 10
Elbert, S. A. . . .	Indianapolis. . . .	R. D	Kindleberger, W. H. .	Indianapolis. . . .	R. D
Elder, Elijah S. . . .	Indianapolis. . . .	R. D	Kendrick, W. H. . . .	Indianapolis. . . .	R. D
Ellis, Wilson. . . .	Indianapolis. . . .	R. D	Kerley, R. M. . . .	Indianapolis. . . .	R. D
Eskew, H. T. . . .	Indianapolis. . . .	R. D	Kitchen, John M. . .	Indianapolis. . . .	R. D
Ewing, C. K. . . .	Malott Park. . . .	R. D	Kidd, W. J. . . .	Indianapolis. . . .	E. D
Farmer, Samuel W. . .	Indianapolis. . . .	E. D	Kishaddig, Henry. . .	Indianapolis. . . .	R. D
Ferree, S. W. . . .	Indianapolis. . . .	R. D	Koch, A. J. . . .	Indianapolis P. M. .	D
Ferguson, Frank. . . .	Indianapolis. . . .	R. D	Krumrine, J. A. . . .	Irvington. . . .	H. D
Field, M. H. . . .	Indianapolis. . . .	R. D	Lampron, G. W. . . .	Indianapolis. . . .	R. 10
Field, E. U. . . .	Cumberland. . . .	R. D	Lash, H. M. . . .	Indianapolis. . . .	R. D
Fisher, A. W. . . .	Indianapolis P. M. . .	D	Laycock, R. T. . . .	Indianapolis. . . .	E. D
Fletcher, C. I. . . .	Indianapolis. . . .	R. D	Lewis, E. R. . . .	Indianapolis. . . .	R. D
Fletcher, Wm. B. . . .	Indianapolis. . . .	R. D	Lewis, James. . . .	Indianapolis. . . .	R. D
French, Mattie J. . . .	Indianapolis. . . .	R. D	Lockbridge, Jno. E. .	Indianapolis. . . .	R. D
Freitshy, John M. . . .	Indianapolis. . . .	H. 10	Loder, C. C. . . .	Indianapolis. . . .	R. D
Frink, C. W. . . .	Indianapolis. . . .	R. D	Long, Henry. . . .	Indianapolis. . . .	E. D
Fuller, Wm. . . .	Indianapolis. . . .	R. 10	Long, John B. . . .	Indianapolis. . . .	R. D
Galloway, Clinton. . .	Indianapolis. . . .	R. D	Long, R. W. . . .	Irvington. . . .	R. D
Garrison, James. . . .	Indianapolis N. R. . .	D	Lutz, Geo. W. . . .	Indianapolis. . . .	R. D
Garver, John J. . . .	Indianapolis. . . .	R. D	MANKER, F. E. . . .	Indianapolis. . . .	R. D
Gates, Maria. . . .	Indianapolis. . . .	R. D	Mapes, Smith H. . . .	Lawrence. . . .	R. D
Gentle, L. F. . . .	Indianapolis. . . .	R. D	Martin, U. G. . . .	Indianapolis. . . .	R. D
Gill, John. . . .	Indianapolis N. R. . .	10	Martin, Francis. . . .	Indianapolis. . . .	R. D
Gray, Wm. . . .	Indianapolis. . . .	R. D	Martin, W. F. . . .	Indianapolis. . . .	R. D
Graydon, R. G. . . .	Southport. . . .	R. D	Marsee, Joseph W. . .	Indianapolis. . . .	R. D
Green, L. M. . . .	Indianapolis. . . .	R. D	Maxwell, Allison. . .	Indianapolis. . . .	R. D
Green, K. M. . . .	Indianapolis. . . .	R. D	Mendenhall, A. B. . .	Indianapolis. . . .	R. D
Green, W. S. . . .	Indianapolis. . . .	R. D	Mendenhall, Elijah. .	Indianapolis. . . .	R. D
Griggs, Oscar B. . . .	Bridgeport. . . .	R. D	Metcalf, Chas. N. . .	Indianapolis. . . .	R. D
Hadley, Evan. . . .	Indianapolis. . . .	R. D	Meyers, John M. . . .	Indianapolis. . . .	R. D
Hart, W. M. . . .	Indianapolis P. M. . .	D	Mills, Seth. . . .	Valley Mills. . . .	R. D
Harvey, Wm. D. . . .	Indianapolis. . . .	R. D	Miller, Edward. . . .	Indianapolis. . . .	R. 10
Hasty, Geo. . . .	Indianapolis P. M. . .	D	Milligan, Jas. W. . .	Indianapolis. . . .	R. D
Haugh, John A. . . .	Indianapolis. . . .	R. D	Moffett, E. D. . . .	Indianapolis. . . .	R. D
Haynes, John R. . . .	Indianapolis. . . .	H. D	Moffett, F. C. . . .	Indianapolis. . . .	E. D
Hay, H. A. . . .	Indianapolis. . . .	R. D. 3	Monroe, Jasper. . . .	Indianapolis. . . .	R. D
Hays, F. W. . . .	Indianapolis. . . .	R. D	Montague, T. T. . . .	Indianapolis. . . .	E. D
Hays, Florence. . . .	Indianapolis. . . .	R. D	Moore, N. L. . . .	Indianapolis. . . .	R. D
Hammer, N. L. . . .	Indianapolis P. M. . .	D	Moore, S. H. . . .	Indianapolis. . . .	R. D
Harberlain, H. . . .	Indianapolis. . . .	R. D	Moore, Mark W. . . .	Indianapolis. . . .	R. D
Hamilton, J. A. . . .	Indianapolis. . . .	R. 10	Moore, Thos. . . .	Indianapolis. . . .	R. 3
Haynes, A. H. . . .	Indianapolis. . . .	R. D	Moore, Wm. G. . . .	Indianapolis. . . .	R. D
Heaton, A. H. . . .	Indianapolis. . . .	E. D	Morgan, W. V. . . .	Indianapolis. . . .	R. D
Heil, Chas. P. . . .	Indianapolis. . . .	E. D	Morrison, F. A. . . .	Indianapolis. . . .	R. D
Helming, H. . . .	Indianapolis. . . .	R. 10	Morrow, J. E. . . .	Indianapolis. . . .	R. D
Heltman, J. K. . . .	Onklandon. . . .	R. D	Muhl, Emil. . . .	Indianapolis. . . .	R. D
Henthron, L. S. . . .	Indianapolis. . . .	R. D	McCabe, Henry. . . .	Indianapolis. . . .	E. D
Hendricks, H. W. . . .	Indianapolis. . . .	E. D	McCaine, T. J. . . .	Indianapolis. . . .	R. D
Hervey, Edwin V. . . .	Indianapolis. . . .	R. D	McClellan, A. . . .	Indianapolis. . . .	R. D
Hervey, Jas. W. . . .	Indianapolis. . . .	R. D	McConnel, L. C. . . .	Indianapolis. . . .	R. D

Marion County—Continued.

Name.	Post Office.	School.	Name.	Post Office.	School.
McDonald, W. B.	New Augusta	R. D	Snowden, Jessie	N. Indianapolis	R. D
McGaughey, Samuel	Acton	R. D	Speer, George W.	Glenn's Valley	R. D
McKhan, William	Indianapolis	R. D	Spicer, J. W.	Acton	R. D
McLain, L. C.	Indianapolis	R. D	Spink, M. A.	Indianapolis	R. D
McKeowen, John	Indianapolis	R. D	Spohr, J. C.	Indianapolis	R. D
McNutt, W. Y.	Indianapolis	R. D	Stillson, Joseph	Indianapolis	R. D
Neff, Daniel	Indianapolis	10	Stockton, Sarah	Indianapolis	R. D
Nash, S. W.	Indianapolis	R. D	Stratford, A. W.	Indianapolis	R. D
New, Geo. W.	Indianapolis	R. D	Stein, Frederick	Indianapolis	R. D
Nesbit, Joseph A.	Castleton	R. D	Stone, R. French	Indianapolis	R. D
Noble, Edward	Indianapolis	E. D	Stephenson, J. C.	Indianapolis	R. D
Oliver, D. H.	Indianapolis	R. D	Stewtevant, G. D.	Indianapolis	H. D
Oliver, A. H.	Indianapolis	R. D	Shafer, Henry		10
Oliver, J. H.	Indianapolis	R. D	Sutcliff, John	Indianapolis	R. D
Outland, E. M.	Indianapolis	P.-M. D	Swain, Rachel	Indianapolis	E. D
Page, L. E.	Indianapolis	R. D	Stevens, James E.	Indianapolis	P.-M. D
Patterson, A. W.	Indianapolis	R. D	Swain, Fremont	Indianapolis	R. D
Patterson, E. R.	Indianapolis	E. D	Taylor, James H.	Indianapolis	R. D
Pantzer, H. O.	Indianapolis	R. D	Thomas, A. J.	Insane Hospital	R. D
Park, H. A. S.	Indianapolis	E. D	Thomas, E. C.	Haughville	R. D
Partlow, Jno. W.	Indianapolis	R. D	Thomas, W. H.	Indianapolis	R. D
Parsons, Jno. S.	Indianapolis	E. 10	Thompson, D. A.	Indianapolis	R. D
Payne, Jas. H.	Julietta	R. D	Thompson, J. L.	Indianapolis	R. D
Peachee, Harrison	Maywood	R. 10	Thompson, W. C.	Indianapolis	R. D
Pearson, C. D.	Indianapolis	R. D	Todd, L. L.	Indianapolis	R. D
Perry, Ralph St. John	Indianapolis	H. D	Tolly, W. C.	Indianapolis	R. D
Pfaff, O. G.	Indianapolis	R. D	Tomlinson, V. B.	Indianapolis	R. D
Pettijohn, O. B.	Indianapolis	R. D	Thomson, O. K.	Indianapolis	R. D
Pickerell, Geo. W.	Indianapolis	E. D	Vernon, Geo. W.	Indianapolis	R. D
Pink, Herman	Indianapolis	R. D	Wegner, Theo. A.	Indianapolis	R. D
Potter, Theo	Indianapolis	R. D	Waide, Robert	Indianapolis	P.-M. D
Porter, G. D.	Indianapolis	R. D	Walker, John C.	Indianapolis	R. D
Prunk, D. H.	Indianapolis	R. D	Walker, I. C.	Indianapolis	R. D
Purman, D. M.	Indianapolis	E. D	Walker, Jos. B.	Indianapolis	R. D
Ratcliff, Barclay	West Newton	R. D	Wail, David	Clermont	R. D
Ray, F. E.	Indianapolis	R. D	Wall, Jas. H.	Haughville	E. D
Reed, Wilson	Indianapolis	H. T.	Walters, P. J.	Indianapolis	R. D
Rees, Wm	Indianapolis	R. D	Warner, W. H.	Indianapolis	R. D
Reynolds, Geo. W.	Indianapolis	R. D	Wands, Wm.	Indianapolis	R. D
Reade, Jeremiah	Trader's Point	R. D	Ward, A. O.	Indianapolis	R. D
Records, Samuel	Lawrence	R. D	Waterman, L. D.	Indianapolis	R. D
Raymond, Thos. U.		R. D	Webb, Joshua	Indianapolis	R. D
Ridpath, H. W.	Indianapolis	R. D	Weiss, C. G.	Indianapolis	R. D
Ritter, C. L.		R. D	Westholter, C. A.	Indianapolis	3
Robeson, W. C.	Indianapolis	R. D	Wells, B. P.	Indianapolis	R. D
Roberts, R. A.	Indianapolis	R. D	White, A. R.	Indianapolis	R. D
Robertson, D. W.	Indianapolis	R. D	White, S. M.	Indianapolis	P.-M. D
Robbins, Wesley	Indianapolis	E. D	White, G. J.	Indianapolis	E. D
Robinson, W. J.	Indianapolis	E. D	Williams, Jas. R.	W. Indianapolis	10
Roesgen, John P.	Indianapolis	10	Williams, R. T.	Indianapolis	10
Rooker, James I.	Castleton	R. D	Wishard, W. H.	Indianapolis	R. D
Rowe, L. M.	Indianapolis	R. D	Wishard, W. N.	Indianapolis	R. D
Rowley, William	Indianapolis	H. D	Wilson, Amos L.	Indianapolis	R. D
Rubrush, T. R.	Indianapolis	R. D	Wilson, C. L.	Indianapolis	R. D
Rutledge, W. V.	Indianapolis	E. D	Woehrmann, E. A.	Indianapolis	H. D
Runnels, O. S.	Indianapolis	H. D	Wood, Clare	Haughville	E. D
Runnels, Sollis	Indianapolis	H. D	Wood, Levi	Indianapolis	P.-M. D
Ryon, Wm. B.	Indianapolis	R. D	Wood, N. V.	Indianapolis	R. D
Sarber, W. H.	Indianapolis	E. D	Woodburn, Jas. H.	Indianapolis	R. D
Schaefer, R.	Indianapolis	R. D	Woodburn, F. C.	Indianapolis	R. D
Schmitt, E.	Indianapolis	E. D	Woodard, U. D.	Indianapolis	P.-M. D
Selman, A. G.	Indianapolis	10	Woodard, S. G.	Indianapolis	R. D
Serrin, James E.	Indianapolis	R. D	Woolen, G. V.	Indianapolis	R. D
Sellers, T. P.	Indianapolis	R. D	Woolfolk, J. P.	Indianapolis	R. D
Sigfield, J. A.	Indianapolis	E. D	Wright, C. E.	Indianapolis	R. D
Silvey, Hilary	Castleton	3	Wright, J. E.	Indianapolis	E. D
Sims, J. T.		R. D	Yoke, Chas.	Bridgeport	R. D
Smith, A. J.	N. Indianapolis	R. D	Young, Jas.	Indianapolis	10
Smith, Mary	Indianapolis	R. D	Young, Thos. J.	Indianapolis	R. D
Smith, Walter		P.-M. D	Young, W. L.	Indianapolis	E. D

Regular, 175; Homeopathic, 15; Eclectic, 45; Physio-Medical, 22; not reported, 32.

Marshall County.

<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>	<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>
Babcock, Isaac L. . . .	Maxinkuckee. . . .	E. D	Linn, Timothy T. . . .	Bourbon	R. D
Bower, Isaiah	Plymouth. . . .	R. 10	Loring, Samuel C. . . .	Burr Oak	R. D
Borton, T. A. . . .	Plymouth. . . .	R. 10	Martin, J. S. . . .	Plymouth. . . .	H. D
Baker, Joseph	Plymouth. . . .	E. 10	Miller, Allen G. . . .	Berlinton. . . .	H. D
Bell, John F. . . .	Inwood	R. 10	Moore, Allen. . . .	LaPaz. . . .	R. D
Brooke, Jared E. . . .	Plymouth. . . .	H. D	Moore, Chas. W. . . .	Tyner City	R. D
Caillat, Victor	Argos. . . .	R. 10	Matchette, A. C. . . .	Bourbon	R. D
Caple, A. Z. . . .	Maxinkuckee. . . .	R. D	Neville, R. . . .	Teegarden	R. 10
Chapman, Clark	Argos. . . .	E. 10	Oyler, Wm. A. . . .	Argos. . . .	R. 3
Dennington, Jas. M. . . .	LaPaz. . . .	R. 10	Pocock, Elias H. . . .	Walnut	R. D
Dunlap, Elizabeth W. . . .	Plymouth. . . .	H. 10	Richey, Samuel R. . . .	Donaldson	R. 10
Eidson, J. W. . . .	Bourbon	R. D	Rea, Oliver A. . . .	Marmont	R. D
Eley, Lorenzo D. . . .	Iliion	R. D	Reynolds, G. R. . . .	Plymouth. . . .	R. D
France, Samuel	Bourbon	R. D	Smith, J. W. . . .	Plymouth. . . .	R. D
Gould, S. W. . . .	Argos. . . .	R. D	Sutton, James A. . . .	Argos. . . .	R. 10
Herring, N. A. . . .	Bremen	E. D	Spencer, Joseph	Tippeconoctown E. . . .	10
Holtzendorff, A. C. . . .	Plymouth. . . .	R. D	Tripp, Franklin	Bremen	E. 10
Hamilton, John J. . . .	DaPaz. . . .	R. D	Viets, E. W. . . .	Plymouth. . . .	H. D
Johnson, Luther	Bourbon	R. 10	Wahl, G. Franklin. . . .	Bremen	R. D
Knott, David C. . . .	Argos. . . .	E. D	Wiseman, B. W. S. . . .	Marmont	R. D
Kendall, J. T. . . .	Walnut. . . .	R. D	WILSON, JAS. H. . . .	Plymouth. . . .	R. D
Kiser, James H. . . .	Inwood	R. D	Younkman, A. B. . . .	Bremen	R. D
Keiservetter, P. H. . . .	Bremen. . . .	R. D			

Regular, 34; Eclectic, 7; Homeopathic, 4.

Martin County.

Brittain, S. H. . . .	Loogootee	R. D	Plummer, L. Nutt	Shoals	R. D
Campbell, J. C. L. . . .	Loogootee	R. 3	PORTER, A. W. . . .	Loogootee	E. D
Courtney, Thomas	Lost River	R. 3	Robison, Geo. M. . . .	Loogootee	R. 3
Dooley, Michael M. . . .	Loogootee	R. D	Shirley, Henry W. . . .	Shoals	R. D
Dollens, F. C. . . .	Trinity Springs, R. . . .	3	Sims, Jasper N. . . .	Dover Hill	E. 3
Gray, William	South Martin. . . .	R. 10	Solomon, J. J. . . .	Shoals	P-M. D
Malott, Geo. F. . . .	Trinity Springs, R. . . .	10	Trueblood, J. C. . . .	Loogootee	R. D
McNabb, O. H. . . .	Keck's Church. R. . . .	10	Thomas, W. J. . . .	Keck's Church. R. . . .	10

Regular, 13; Eclectic, 2; Physio-Medical, 1.

Miami County.

Alford, Henry	Peru	R. 10	Moore, John W. . . .	Mexico	P-M. D
Armstrong, W. K. . . .	Mexico	R. 3	Meek, James A. . . .	Bunker Hill	R. D
Ager, U. A. . . .	Peru	R. D	Maughmer, G. C. . . .	Wampecong	R. D
Brower, Joseph. . . .	Gilead	E. D	McDowel, H. P. . . .	Bunker Hill	R. D
Baldwin, J. A. . . .	Amboy	E. 10	Mendenhall, O. A. . . .	Xenia. . . .	R. D
Belew, John C. . . .	Chili	E. 10	Malsbury, J. O. . . .	Peru	R. D
Barnes, John	Macy	R. 10	Meek, J. B. . . .	Amboy	R. 3
Boggs, M. M. . . .	Macy	R. 10	Marsh, S. S. . . .	Peru	R. D
Brenton, W. H. . . .	Peru	R. D	Newell, J. M. . . .	Denver	R. D
Black, F. M. . . .	Peru	E. D	Orr, A. C. . . .	Bunker Hill	R. D
Baldwin, M. T. . . .	Xenia. . . .	E. D	Peters, J. B. . . .	Macy	R. 3
BLOOMFIELD, E. M. . . .	Peru	R. D	Pencs, Rollins	Peru	R. 10
Campbell, E. L. . . .	Miami	R. 3	Passage, H. V. . . .	Peru	R. D
Doris, G. W. . . .	Miami	E. D	Rutherford, C. E. . . .	Peru	H. D
Day, T. J. . . .	Miami	R. D	Ramsey, S. G. . . .	Peru	R. D
Friermood, E. K. . . .	Peru	R. D	Robbins, John Q. A. . . .	Denver	R. D
Frets, J. C. . . .	Deedsville	R. 5	Ridenour, David	Chili	R. D
Ford, H. H. . . .	Perrysburg	R. D	Smith, R. W. . . .	Xenia	R. D
Graham, B. R. . . .	Peru	R. D	Stewart, F. C. . . .	Peru	H. D
Higgins, C. B. . . .	Peru	R. D	Stewart, W. B. . . .	Peru	H. D
Helm, John H. . . .	Peru	R. D	Smith, A. F. . . .	Wampecong	R. D
Helm, C. J. . . .	Peru	R. D	Spooner, Jared	Peru	R. D
Ijams, Thos. F. . . .	North Grove	R. D	Ward, J. O. . . .	Peru	R. D
Kelsy, J. S. . . .	Xenia. . . .	R. D	Watkins, F. H. . . .	Peru	R. 10
Kalbfish, A. H. . . .	Miami	H. D	Wilson, W. T. . . .	Bunker Hill	R. D
LaDue, John	Denver	R. 10	Wareham, J. W. . . .	Gilead	R. D
Lawshe, J. J. . . .	Wampecong	R. D	Wilson, J. S. . . .	Macy	E. 3
Litzenberger, O. P. . . .	Xenia	R. 3	Zimmer, E. G. . . .	Santafe	R. L

Regular, 45; Homeopathic, 2; Eclectic, 6; Physio-Medical, 1.

Monroe County.

Name.	Post Office.	School.	Name.	Post Office.	School.
AXTELL, A. J. . . .	Bloomington . . .	R. 10	Maxwell, J. D., Jr. . .	Bloomington . . .	R. D
Bryan, G. W. . . .	Bloomington . . .	R. D	Munson, G. H. . . .	Stanford	R. D
Barrow, D. W. . . .	Unionville	R. 3	McLaughlin, C. D. . .	Harrodsburg . . .	R. 10
Brannam, Jonathan . .	Bryant's Creek . .	E. 10	Oliphant, P. T. . . .	Buena Vista . . .	E. 3
Dodd, James	Clear Creek	R. D	Pressly, I. N.	Ellettsville	R. D
Farr, A. C.	Bryant's Creek . .	R. 3	Rice, N. S.	South Union . . .	E. D
Gaston, J. H.	Bloomington	R. D	Spencer, A. C.	Unionville	R. D
Harris, J. E.	Bloomington	R. D	Stansifer, G. I. . . .	Stinesville	R. D
Harris, R. C.	Ellettsville	R. 10	Smith, J. T.	Harrodsburg . . .	R. 10
Harris, J. J.	Ellettsville	R. 10	Tourner, J. P.	Bloomington . . .	R. 3
Harris, W. W.	Ellettsville	R. 10	Weir, R. M.	Bloomington . . .	R. D
Humston, S. R. . . .	Smithville	R. 10	Whitted, W. L.	Bloomington . . .	R. D
Judah, M. T.	Gent	R. 3	Warring, J. M.	Smithville	R. 10
Lowder, L. T.	Bloomington	R. D	Whitted, F. F.	Ellettsville	R. D
Maxwell, J. D., Sr. . .	Bloomington	R. D			

Regular, 26; Eclectic, 3.

Montgomery County.

Aydelotte, Thos. B. . .	Newtown	R. D	Keeney, Henry. . . .	Linden	R. 10
Brown, Lonzo F. . . .	Alamo	R. D	Kleiser, Arthur J. . .	Waveland	R. D
Brown, Isaac L. . . .	Alamo	R. D	Kirkpatrick, Chas. S.	Ladoga	R. D
Berryman, James A. .	Darlington . . .	R. D	King, Richard F. . . .	New Ross	R. D
Black, Dayton R. . . .	New Richmond . .	R. D	Leech, T. F.	Crawfordsville . .	R. D
Burroughs, Wm. H. . .	Shannondale . . .	R. D	Layne, Preston M. . .	Crawfordsville N. R.	R. 10
Bohe, Cal. W.	Clark's Hill . . .	E. D	Leffland, William A. .	Linden	R. D
Bowers, Homer. . . .	New Ross	R. 3	May, Willis L.	Crawfordsville . .	R. D
Brough, Chas. F. . . .	New Ross	R. D	Morgan, Brastleton B	Crawfordsville . .	R. D
Bals, Zopher	Waveland	R. D	Mahorney, John C. . .	Ladoga	H. D
Bilbe, John W.	Waveland	R. 3	Matler, Thos. S. . . .	Waveland	E. 10
Barnes, Dawson E. . .	Crawfordsville . .	E. D	McMechan, Jas. G. . .	Crawfordsville . .	R. D
Balman, William F. . .	Ladoga	R. D	McClellen, Fannie. . .	Crawfordsville . .	R. 3
Beatty, James L. . . .	New Market . . .	R. D	Moon, A. V.	Wheelock	R. D
Cowan, Edward H. . .	Crawfordsville . .	R. D	Naylor, Isaac E. G. . .	Darlington	R. 10
Chambers, Wm. B. . . .	Crawfordsville . .	H. D	Olin, L. W.	Elmdale	R. D
Culver, Dudley M. . .	Waynetown . . .	R. D	Olinger, David L. . . .	Brown's Valley N. R.	R. 3
Currie, John H. . . .	Darlington . . .	R. 10	Oxley, W. J.	Darlington	R. D
Claypool, Joseph S. . .	Waynetown . . .	R. 3	Odell, Jacob L.	Kirkpatrick	E. 3
Coon, Hiram J.	Colfax	R. D	Purviance, Sam'l W. . .	Crawfordsville . .	R. D
Carney, John W. . . .	Wingate	R. 10	Ristine, Warren H. . .	Crawfordsville . .	R. D
Detchen, Elliott	Crawfordsville . .	R. 3	Russell, Jos. P.	Waveland	R. 10
Detchen, Irwin A. . . .	Crawfordsville . .	R. D	Rankin, Chas. E. . . .	Crawfordsville . .	R. D
Detchen, Stow S. . . .	New Richmond . .	R. 10	Rich, Fanny	Darlington	R. 3
Dewey, George W. . . .	Crawfordsville . .	R. 3	Seller, S.	Mace	R. D
Dingman, Joseph O. . .	Linden	R. D	Straughn, John W. . .	Parkersburg . . .	R. D
Duncan, Joseph R. . .	Crawfordsville . .	E. D	Straughn, Kent R. . .	Brown's Valley . .	R. D
Drake, Moses C. . . .	Ladoga	E. D	Shannon, John S. . . .	Shannondale . . .	R. D
Dunlavy, Ira C.	Waveland	R. D	Shotts, Henry R. . . .	Linden	R. D
Davidson, Jesse F. . .	Yountzville . . .	R. D	Sutherland, Jas. F. . .	Ladoga	R. D
Demmington, B. C. . .	Darlington . . .	R. D	Steele, Wm. W.	Waveland	R. D
Eddingsfield, Geo. W. .	Mace	R. D	Swisher, F. M.	Kirkpatrick	R. D
Ensminger, Sam'l L. . .	Crawfordsville . .	R. D	Stoddard, O.	Linden	R. D
Ensminger, John A. . .	Wingate	R. D	Stallard, John J. . . .	Russelville	R. 10
Etter, Jacob R.	Crawfordsville . .	R. D	Taylor, John N.	Crawfordsville . .	H. D
Gott, William T. . . .	Crawfordsville . .	H. D	Thornberry, John D. .	Crawfordsville . .	R. 10
Griffith, Martha E. H. .	Crawfordsville . .	R. D	Talbot, Jesse N. . . .	Alamo	R. D
Griffith, Thomas J. . .	Crawfordsville . .	R. D	Trembly, David G. . . .	Mace	E. D
Hutchings, Benj. F. . .	Crawfordsville . .	R. D	Tucker, Geo. W.	Bowers	R. 3
Henry, Abijah F. . . .	Wingate	R. D	Tilney, DeCaux Wm. . .	Crawfordsville . .	E. D
Hoover, Mary	Crawfordsville . .	R. N	Vance, Chas. L.	New Market	E. D
Hillis, James D. . . .	Darlington . . .	R. D	Wilhite, Mary H. . . .	Crawfordsville . .	R. D
Hurt, William J. . . .	Waynetown . . .	R. D	Washburn, Elihu P. . .	Linden	R. D
Hamilton, Albert N. . .	Waynetown . . .	R. D	Washburn, John	New Richmond . .	R. 10
Hyten, W. H.	Parkersburg . . .	R. 10	Wilson, John B.	Ladoga	R. D
Hawey, Hohn W. . . .	Russellville . . .	R. 10	Walden, Chas. H. . . .	New Market	R. 3
Hostetter, Allen	Mace	R. D	Williams, Geo. S. . . .	Brown's Valley . .	R. D
Irwin, Samuel G. . . .	Crawfordsville . .	R. D	Williams, Ira C.	White's Valley . .	R. D
Jones, Oliver H. . . .	Crawfordsville . .	R. D	Wilson, W. L.	Ladoga	R. D
KEEGAN, ENOCH W. . .	Crawfordsville . .	R. D	Young, Dudley	New Market	R. 3

Regular, 82; Eclectic, 9; Homeopathic, 4; not reported, 3.

Morgan County.

<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>	<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>
Blackstone, B. D.	Martinsville	R. D	Miller, G. W.	Martinsville	R. 10
Bridges, A. P. W.	Alaska	R. 3	McAllister, Alex.	Alaska	R. 10
Cure, H. W.	Martinsville	R. 10	Nichols, W. H.	Eminence	R. D
Farr, U. H.	Martinsville	R. D	Perce, B. H.	Mooreville	R. D
Gravis, C. M.	Martinsville	R. D	Prather, W. E.	Mahalasville	R. 10
Green, E. V.	Martinsville	R. D	Robinson, H. C.	Martinsville	R. D
Griggs, O. B.	Brooklyn	R. D	Reagon, A. W.	Mooreville	R. D
Harvey, D. B.	Eminence	R. D	Rundell, S. N.	Cope	R. D
Hendricks, W. E.	Martinsville	R. D	Seaton, Charles	Martinsville	R. D
Henson, Theodore	Alaska	R. D	Seaton, G. W.	Hall	R. D
Holiday, T. F.	Monrovia	R. D	Shields, W. D.	Eminence	R. D
Horton, Ellis	Monrovia	R. D	Snoddy, J. W.	Mooreville	R. D
Johnson, Jarvis J.	Martinsville	R. D	Sweet, E. M.	Martinsville	R. D
Johnson, Jas. J.			Tilford, S. A.	Martinsville	R. D
Jones, H. C.	Hall	R. D	Tilford, A. S.	Hall	R. D
Kennedy, D. P.	Martinsville	E. D	Tarlon, R. H.	Martinsville	R. D
Kennedy, John	Paragon	E. 10	Tompson, T. L.	Monrovia	R. D
KESSINGER, C. A.	Martinsville	R. D	Tompson, R. D.	Eminence	R. D
Knight, J. H.	Morgantown	R. D	Vincent, J. K.	Waverly	R. D
Leathers, D. A.	Mooreville	R. 3	Van Sant, W. B.	Cope	R. D
Lindley, C. M.	Brooklyn	R. D	Whorton, J. O.	Waverly	R. D
Murphy, W. M.	Morgantown	R. D	Williamson, R. B.	Paragon	R. D
Monical, G. S.	Brooklyn	R. D	Williams, K. H.	Cope	R. D

Regular, 47; Eclectic, 2.

Newton County.

Allen, Ad.	Rosetown	R. D	Lorrett, John A.	Goodland	R. D
BECKNER, J. F.	Kentland	R. D	Merry, J. W.	Mt. Clin.	R. D
Boice, R. B.	Kentland	R. D	Prat, B. W.	Goodland	R. D
Caldwell, Samuel L.	Pilot Grove	R. 10	Ransford, J. W.	Lake Village	R. D
Chaffee, J. C. M.	Kentland	R. 10	Recker, L. H.	Fernoco	R. D
Climmer, —	Goodland	E. D	Smith, J. B.	Fernsman	R. D
Crisler, J. B.	Brook	R. D	Wescott, —	Goodland	E. D
Humston, Milton N.	Goodland	R. D	Triplitt, Charles E.	Moroco	R. D
Hatch, J. A.	Kentland	R. D			

Regular, 13; Homeopathic, 2; Eclectic, 2.

Noble County.

Bowker, James J.	LaOtto	R. D	Newton, Warren E.	Ligonier	H. D
Buchtel, Mary M.	Ligonier	R. 10	Nifer, F. J.	Brimfield	E. D
Carr, Geo. W.	Ligonier	R. 3	Olds, Wm. B.	Kendallville	E. D
Clark, Wm. H.	Albion	R. D	Reiff, N. G.	Albion	H. D
DePew, E. W.	Wolf Lake	R. 10	Reed, U. W.	Wolf Lake	H. D
Dunlap, Robert	Kendallville	R. 10	Shobe, W. A.	Ligonier	R. D
Eliot, C. J. F.	Ligonier	H. D	Seymore, Calvin A.	Wawaka	R. D
Franks, W. H.	Ligonier	R. D	Schlotterback, E. L.	Ligonier	R. 3
Gilbert, Joseph L.	Kendallville	R. D	Smith, Jacob F.	Rome City	R. 10
Gants, John	Cromwell	E. D	Teal, Norman	Kendallville	R. D
Green, Thomas C.	Albion	R. D	Teal, G. A.	Kendallville	R. D
Green, W. T.	Albion	R. D	Trader, James L.	Avilla	R. D
Green, Fernando A.	Ligonier	R. D	Tucker, Henry G.	Cromwell	R. 10
Hays, J. H.	Albion	R. D	Woodruff, Geo. S.	Ligonier	E. D
Isibel, Philander	Kendallville	R. 10	Williams, Warren S.	Kendallville	R. 10
Knepper, E. W.	Ligonier	R. 10	Williams, S. T.	Kendallville	E. D
LEMMON, S. W.	Albion	R. D	Williams, Nathan	Kendallville	E. 10
Mitchell, Wm. L.	Ligonier	R. D	Williams, Robert B.	Rome City	R. 10
Moore, Nathan B.	Merriam	R. 3	Williams, R. B., Jr.	Rome City	R. 3
Maloney, F. C.	Avilla	R. D	Wilson, D. C.	Kendallville	E. D
Miller, B. E.	Albion	R. D	Wolf, Wm. R.	Ligonier	R. D

Regular, 30; Homeopathic, 4; Eclectic, 6; not reported, 1.

Ohio County.

Alden, T. E.	Rising Sun	R. 3	Miller, James B.	Hartford	R. 3
Craig, William H.	Rising Sun	R. 3	Rockafellow, W. A.	Hartford	R. 3
Gillispie, Wm.	Rising Sun	R. D	Sullivan, Wm. H.	Rising Sun	R. D
Gillispie, Wm. Jr.	Rising Sun	R. D	Stevenson, G. A.	Rising Sun	R. D
LANGSDALE, R. G.	Rising Sun	R. D	Wilson, N. H.	Guionville	R. 3

Regular, 10.

17—BD. OF H.

Orange County.

Name.	Post Office.	School.	Name.	Post Office.	School.
Bowles, L. S.	Paoli	R. 10	Mayfield, B.	Young's Creek	R. D
Brent, William	Newton Stewart	R. D	May, George W.	Orleans	R. D
Boyd, C. L.	Bromer	R. D	MONTGOMERY, J. W.	Paoli	R. D
Carter, G. P.	Orangeville	R. D	Ryan, Samuel	French Lick	R. 3
Ellis, William D.	Young's Creek	R. 10	Ryan, William	French Lick	R. D
Gilliat, William B.	Young's Creek	R. D	Ritter, J. A., Jr.	West Baden	R. D
Hackney, W. R.	Orleans	R. 10	Ritter, J. A., Sr.	Orangeville	R. 3
Hon, B. J.	Orleans	R. D	Ritter, T. B.	Orangeville	R. 3
How, U. N.	Paoli	R. D	Smith, E. H.	Newton Stewart	R. 3
Hazlewood, Green	Chambersburg	R. D	Smith, J. H.	Valeene	R. 3
Hunt, F. P.	Leipsic	R. 3	Sherrod, J. H.	Paoli	R. 3
Kochenour, Wm. P.	Rego	R. D	Sherrod, W. F.	West Baden	R. 3
Laughlin, E. D.	Orleans	R. D	Strand, S. D.	Valeene	R. 10
Lingle, R. W.	Orleans	R. D	Patton, Charles	Valeene	R. D
Lindley, Luben	Paoli	R. D			

Regular, 29.

Owen County.

Cox, N. D.	Spencer	R. D	McKelvy, S. R.	Patrickburg	R. D
Coble, Jacob	Spencer	R. D	McKabe, H. H.	Freedom	R. 10
Dinke, Walter L. W.	Spencer	R. D	Osgood, H. G.	Gosport	R. D
Erskine, A. U.	Housetown	R. D	Trichard, W. K.	Gosport	R. D
Fisher, R. Y.	Quincy	R. D	Tearson, Allen	Spencer	R. D
Florens, Thomas W.	Coal City	R. 10	Totts, J. F.	White Hall	R. D
Gants, Thomas	Freedom	R. 10	Richards, S. D.	Patrickburg	R. 10
Gray, O. F.	Spencer	R. D	Rice, W. H.	Cuba	R. D
Hester, U. V. A.	Arney	R. 10	Schell, F. A.	Spencer	R. D
Hixon, W. H.	Farmers	R. 10	Stuckey, J. M.	Gosport	R. D
Hinkle, J. S.	Coal City	R. D	Stuckey, F. V.	Gosport	R. D
Jones, J. M.	Cataact	R. 10	Smith, J. W.	Gosport	R. D
Keeper, G. F.	Quincy	R. D	Symons, T. U.	Housetown	R. D
Kennedy, John	Gosport	R. 10	WILES, WM. V.	Spencer	R. D
Livingston, J. J.	Freeman	R. D	Williams, J. A.	Patrickburg	R. D
Minich, A. J.	Freeman	R. 10	Young, William S.	Patrickburg	R. D
McDonald, D. H.	Quincy	R. D			

Regular, 28; Eclectic, 5.

Parke County.

Anderson, Ellen	Rockville	P. M. D	Lynch, J. Y.	Rosedale	R. D
Ball, James T.	Judson	R. D	McKey, R. H. W.	Russell Mills	R. 10
Boyd, James M.	Bloomingsdale	R. D	Morris, C. C.	Rockville	R. D
Caplinger, C. A.	Marshall	R. 3	Mendenhall, Erasmus	Sylvania	R. 10
Crooks, J.	Bridgeton	R. D	Mater, Jacob D.	Bridgeton	R. D
Campbell, Annie B.	Rockville	R. D	Martin, A.	Bellmore	R. D
Dooley, R. L.	Armiesburg	R. 3	Morris, A. W.	Colema	R. D
Dare, J. S.	Bloomingsdale	R. 10	Myers, J. G. L.	Bloomingsdale	R. D
Deverter, Geo. F.	Howard	R. D	Norman, James J.	Parkville	R. D
Darrach, W. P.	Hollandsburg	R. D	Purcell, Walter M.	Rockville	R. D
Goldsberry, J. A.	Annapolis	R. D	Powell, B. B.	Marshall	R. D
GOSS, M.	Rockville	R. D	Reeder, J. C.	Montezuma	R. D
Hansell, David	Lena	R. 10	Rice, H. J.	Rockville	R. D
Holmes, W. B.	Montezuma	R. 10	Thomas, W. L.	Rockville	R. D
Hudson, B. F.	Montezuma	R. D	Vancleve, E.	Cattin	R. 3
Johnson, M. A.	Coxville	R. D	Williamson, A. A.	Sylvania	R. 3
Larue, B. F.	Portland Mills	R. D	Williamson, W. N.	Sylvania	R. D

Regular, 28; Eclectic, 4; Physio-Medical, 1.

Perry County.

Adye, Andrew J.	Adyeville	R. 10	Howard, W. R.	Lilly Dale	R. 10
BRUCKER, CHAS. M.	Tell City	R. D	Hutchinson, H. W.	Cannelton	R. D
Bacon, J. D.	Troy	R. 10	Larg, J. W.	Leopold	R. 10
Bennett, J. B.	Derby	R. 3	Ladd, Chas. W.	Cannelton	R. D
Brown, G. W.	Doolittle's Mill	R. 10	Lee, Jno. H.	Rome	R. D
Cluthe, Wm	Tell City	R. D	Lomax, Wm	Bristow	R. D
Carnovan, J. W.	St. Croix	R. 3	Mitchell, F. A.	Cannelton	R. D
Cox, C. E.	Cannelton	R. 10	Meeks, Lewis	Branchville	R. 10
Curry, H. M.	Cannelton	R. D	Ripperdam, Jno. H.	Rome	R. 10
Dome, D. C.	Troy	R. 10	Shelbase, F. W.	Tell City	R. D
Evans, F. A.	Tell City	R. 10	Van Winkle, Sylvester	German Ridge	R. 10
Foster, J. C.	Foster's Ridge	R. D	Wedding, M. F.	Rome	R. D
Foster, A. E.	Adyeville	R. D	Webb, J. R.	Troy	R. 3
Hendrixson, A. M. D.	Rome	R. D	Vennemen, R. T.	Troy	R. D
Hix, Wm. R.	Don Juan	R. 10			

Regular, 25; Homeopathic, 1; Eclectic, 4.

Pike County.

<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>	<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>
Adams, Jas. R.	Petersburg	R. D	Harris, Rich. W	Algiers	R. D
Aust, Fred T.	Winslow	N. R	JOHNSON, L. B. W	Otwell	R. D
Beardsley, J. M.	Winslow	R. D	Kime, R. R.	Petersburg	R. D
Bethel, Wm. J.	Winslow	N. R	Kime, J. Thomas.	Petersburg	R. D
Bassinger, Thos. W	Oatsville	R. D	Lunk, Wm. H.	Petersburg	R. D
Bergem, Joseph W.	Petersburg	R. D	Lamar, Q. H. M.	Petersburg	E. D
Blythe, W. T.	Glezen	N. R	McGrew, Wilson	Arthur	R.
Clark, Sylvanus R.	Otwell	R. D	Osborn, Wm. R.	Spurgeon	R. D
Corn, Nathaniel	Angusta	N. R	Palmer, Emery H	Ramble	N. R
DeTarr, David	Winslow	N. R	Pagin, Henry.	Velpin	R. D
Duncan, Jas. B.	Petersburg	R. D	Rhodes, A. J.	Pikeville	N. R
DeMott, Wm. M.	Algiers	R. D	Russell, A. H.	Algiers	R. D
Ferguson, Joseph W	Pikeville	N. R	Thomas, M. C.	Petersburg	N. R
Fullenweider, C. H.	Petersburg	R. D	Taylor, John W	Pikeville	N. R
Godwin, John W.	Otwell	N. R	Schenek, H. F.	Oatsville	R. D
Hellemeyer, Louis H	Stendal.	R. D	Smith, Jno. T.	Glezen	N. R
Hawkins, John.	Petersburg	R. D	Stork, John H.		R. D
Harrington, A. J.		N. R	Woodward, Lawrence,	Winslow	R. D

Regular, 22; Eclectic, 1; not reported, 13.

Porter County.

Arnold, Geo. W.	Wheeler	R. D	Loring, D. J.	Valparaiso	R. D
Atkins, Lyman.	Kout	E. D	Letherman, A. P.	Valparaiso	R. D
Anderson, Elsie F.	Valparaiso	R. D	McCarthy, Jno. F.	Valparaiso	R. D
Blackstone, John K.	Hebron	R. D	Noland, Philip D.	Kout	R. D
Blackstone, John K., Jr.	Hebron	R. D	Oakes, Omar	Wheeler	R. D
Blackstone, Wm. B.	Hebron	R. D	Pratt, S. R.	Hebron	R. D
Beer, H. M.	Valparaiso	R. D	Palmer, G. W.	Valparaiso	E. D
Corey, E. A.	Chesterton	R. D	Palmer, John A.	Valparaiso	E. D
Coates, H. C.	Valparaiso	R. D	Pagin, Samuel	Valparaiso	E. D
Edmunds, E. A.	Hebron	H. D	Sayan, John A.	Valparaiso	E. D
Elliott, H. C.	Valparaiso	H. D	Stykes, Marshall F.	Valparaiso	H. 10
Green, Hiram	Chesterton	R. 10	Vincent, Alonzo W.	Valparaiso	E. D
Hubbard, R. B.	Hebron	E. D	Wood, Oliver S.	Hebron	E. D
Jones, E. J.	Hageman	R. 10	Willing, A. J.	Wheeler	R. D
Kellogg, Chas.	Chesterton	E. D	YOHN, WM. A.	Valparaiso	R. D

Regular, 18; Eclectic, 7; Homeopathic, 4.

Posey County.

Brydon, John F.	Griffin	R. 3	Murphy, Edward	New Harmony	R. D
Bucklin, Geo. W.	New Harmony	R. D	Neal, Daniel	New Harmony	R. 10
Cosby, L. B.	Cynthiana	R. 3	Neal, Benjamin	New Harmony	R. D
Creameens, W. C.	Grafton	E. D	Phar, W. I.	Griffin	R. D
Dailey, T. J.	Poseyville	R. 10	Pearse, S. H.	Mt. Vernon	R. D
Dentsdorff, H. B.	Parker's Set	mt. R. 10	Peckinpaugh, G. R.	Mt. Vernon	R. D
Dixon, R. S.	Mt. Vernon	H. 10	Powell, J. W.	Mt. Vernon	R. 3
Elliott, Cyrenius, Sr.	Poseyville	R. 10	Rawlings, S. O.	New Harmony	R. D
Elliott, Cyrenius, Jr.	Blairsville	R. 3	RAMSEY, D. C.	Mt. Vernon	R. D
Gudgel, James E.	Cynthiana	R. D	Spencer, E. V.	Mt. Vernon	R. D
Gammon, D. A.	Solitude	R. D	Stuart, Albert L.	Blairsville	R. D
Glaze, L. A.	Poseyville	R. D	Smyth, R.	Mt. Vernon	R. D
Glaze, J. M.	New Harmony	R. D	Seitz, W. R.	West Franklin	R. D
Gettings, C. C.	Grafton	R. D	Smith, W. F.	Cynthiana	E. D
Goodwin, E. J.	Solitude	R. D	Thomas, G. A.	Cynthiana	R. D
Halton, W. M.	New Harmony	R. D	Williams, J. B.	Grafton	R. 3
Hicks, C.	Cabors	R. D	Wilson, Thomas W	New Harmony	R. D
Huston, J. C.	Mt. Vernon	R. D	Wilson, J. B.	Stewartsville	R. D
Harper, John	Mt. Vernon	R. D	Welborn, G. W.	Stewartsville	R. D
Hensler, Earnest	West Franklin	R. 3	Welch, Walter	Mt. Vernon	R. D
Henderson, S. C.	St. Philips	R. D	Young, Thomas B.	Poseyville	R. D
Kransgrill, David	Wadesville	R. D			

Regular, 40; Homeopathic, 1; Eclectic, 2.

Pulaski County.

Name.	Post Office.	School.	Name.	Post Office.	School.
Brown, Stephen I . . .	Francesville . . .	R. D	Pugh, John W . . .	Bever To'n's p . . .	P.-M. D
Buck, F. G . . .	Oak . . .	R. D	Peters, R. J. D . . .	Star City . . .	R. 10
Balam, F. Lilla Clare . . .	Bever . . .	P.-M. D	Pattison, H. E . . .	Winamac . . .	R. D
Huey, Robert B . . .	Star City . . .	P.-M. D	Stephens, Henry C . . .	Star City . . .	P.-M. D
Hall, S. Jerome . . .	Pulaski . . .	P.-M. D	Sharrer, John C . . .	Francesville . . .	R. D
Hoot, P. L . . .	Monterey . . .	R. D	Thomas, F. B . . .	Winamac . . .	R. 10
Jones, H. G . . .	Medaryville . . .	R. D	THOMAS, J. J . . .	Winamac . . .	R. D
Kittinger, H . . .	Winamac . . .	R. D	Thompson, G. W . . .	Winamac . . .	R. D
Kelsey, William . . .	Monterey . . .	R. D	Thompson, W. H . . .	Winamac . . .	R. D
Moss, D. F . . .	Winamac . . .	R. D	Talbot, F. M . . .	Winamac . . .	R. D
McPherson, Chas . . .	Pulaski . . .	R. D	Vaughn, Martin M . . .	Pulaski . . .	P.-M. D
Orr, A. C . . .	Monterey . . .	R. D			

Regular, 17; Physio-Medical, 6.

Putnam County.

Allen, Chas. A . . .	New Maysville . . .	R. 3	Moore, A. H . . .	Clinton Falls . . .	R. D
BENCE, GEO. W . . .	Greencastle . . .	R. D	McCandless, A. S . . .	Roachdale . . .	R. D
Bastian, J. V . . .	Belle Union . . .	R. D	McCarty, W. T . . .	Putnamville . . .	R. D
Brasier, T. T . . .	Greencastle . . .	R. 3	Newgent, R. P . . .	Clinton Falls . . .	R. 10
Cully, J. T . . .	Bainbridge . . .	R. D	Prichard, W. K . . .	Cloverdale . . .	R. D
DeVore, H. V . . .	Greencastle . . .	R. D	Preston, J. L . . .	Cloverdale . . .	R. D
Denny, R. B . . .	Fillmore . . .	R. 10	Purcell, W. M . . .	Reelsville . . .	R. D
Dooley, R. L . . .	Russellville . . .	R. 3	Poole, Geo. W . . .	Russellville . . .	R. D
Evans, E. B . . .	Greencastle . . .	R. D	Price, E. O . . .	Groveland . . .	R. D
Farver, Geo. W . . .	Bainbridge . . .	R. D	Robinson, J. H . . .	Coatville . . .	R. D
Fulton, R. E . . .	Greencastle . . .	R. 10	Rogers, Dudley . . .	Greencastle . . .	R. D
Gillespie, Joseph . . .	Manhattan . . .	R. D	Smythe, G. C . . .	Greencastle . . .	R. D
Hanna, L. M . . .	Greencastle . . .	R. D	Stanley, L . . .	Fincaisle . . .	R. D
Harris, W. C . . .	Carpentersville . . .	R. D	Stavens, John . . .	Brick Chapel . . .	R. D
Hill, W. D . . .	Greencastle . . .	H. 10	Spurgeon, B. F . . .	Mt. Meridian . . .	R. D
Horn, A. H . . .	Putnamville . . .	R. D	Smith, N. G . . .	Greencastle . . .	R. D
Hawkins, E . . .	Greencastle . . .	R. D	Smythe, Albert E . . .	Greencastle . . .	R. D
Hamilton, R. S . . .	Portland Mills . . .	R. 10	Taylor, Mary J . . .	Greencastle . . .	H. D
Harvey, J. W . . .	Russellville . . .	R. 10	Taylor, Geo. W . . .	Greencastle . . .	H. 10
Jacks, J. R . . .	Fern . . .	E. D	Throop, Geo. W . . .	Greencastle . . .	K. 10
Knight, J. M . . .	Greencastle . . .	E. D	Towey, J. T . . .	Russellville . . .	R. D
Leatherman, J. R . . .	Greencastle . . .	R. D	Terrell, W. H . . .	Fillmore . . .	R. D
LaRue, B. F . . .	Portland Mills . . .	R. D	Wood, N. S . . .	Roachdale . . .	R. D
Mullinix, P . . .	Cloverdale . . .	R. 3			

Regular, 41; Homeopathic, 3; Eclectic, 2.

Randolph County.

Abel, Oscar E . . .	Winchester . . .	R. D	Hiatt, C. C . . .	Ridgeville . . .	E. 3
Alexander, Prud. M . . .	Winchester . . .	P.-M. 10	Hamilton, Robert W . . .	Lynn . . .	R. 10
Alexander, R. P . . .	Winchester . . .	P.-M. 10	Harrison, Harlan . . .	Union City . . .	R. D
Bosworth, Richard . . .	Winchester . . .	R. D	Keener, James M . . .	Fairland . . .	R. 10
Bruce, George W . . .	Winchester . . .	R. 10	Kelley, Clifton M . . .	Winchester . . .	R. D
Ballard, A. B . . .	Deerfield . . .	R. D	King, James V . . .	Castle . . .	R. 10
Berry, John S . . .	Spartansburg . . .	R. D	La Follette, Geo. W . . .	Parker . . .	E. D
Blair, James S . . .	Lynn . . .	R. D	Markle, John E . . .	Winchester . . .	R. D
Botkin, John W . . .	Unionport . . .	E. 10	Moroney, James H . . .	Carlos City . . .	R. D
Botkin, Thomas W . . .	Unionport . . .	E. 3	Mills, C. C . . .	Losantville . . .	R. D
CHENOWETH, F. A . . .	Winchester . . .	R. D	Millizan, Charles . . .	Winchester . . .	P.-M. D
Chenoweth, John T . . .	Winchester . . .	R. D	McFarland, Norman . . .	New Pittsburg . . .	R. 3
Chenoweth, Nelson T . . .	Windsor . . .	R. D	Noffsinger, Henry . . .	Union City . . .	K. D
Carver, James M . . .	Winchester . . .	R. 10	Nixon, John . . .	Fairland . . .	R. D
Commons, Wm . . .	Union City . . .	R. D	Owens, John K . . .	Harrisville . . .	E. 3
Carter, David. M . . .	Modoc . . .	R. D	Proctor, J. A . . .	Union City . . .	P.-M. 10
Clark, J. Milton . . .	Modoc . . .	R. 10	Purcell, John . . .	Deerfield . . .	R. D
Cox, Cyrus . . .	Lynn . . .	R. D	Rine, Edgar W . . .	Winchester . . .	R. D
Davis, Lewis N . . .	Fairland . . .	R. D	Rogers, Aaron G . . .	Parker . . .	R. D
Evans, Joseph J . . .	Winchester . . .	R. 10	Reynard, Granville . . .	Union City . . .	R. D
Evans, George S . . .	Saratoga . . .	R. 10	Reynard, Edward G . . .	Union City . . .	K. D
Evans, Caleb S . . .	Union City . . .	R. D	Ruby, Samuel B . . .	Union City . . .	E. 3
Flowers, Bartina J . . .	Union City . . .	P.-M. D	Reeves, John L . . .	Union City . . .	E. D
Frazier, John W . . .	Union City . . .	P.-M. 10	Richard, Wm. A . . .	New Pittsburg . . .	E. D
Fisher, Martin L . . .	Winchester . . .	P.-M. D	Rommel, Sylvia . . .	Winchester . . .	P.-M. D
Franks, Hamilton P . . .	Losantville . . .	R. D	Smith, Wm. G . . .	Winchester . . .	K. D
Farquhar, Allen H . . .	Ridgeville . . .	R. D	Smith, Calvin . . .	Fairland . . .	R. D
Frederick, George W . . .	Ridgeville . . .	R. D	Shoemaker, Wm. J . . .	Ridgeville . . .	R. 10
Fager, C. M . . .	Fairview . . .	R. 10	Simmons, Wm. D . . .	Union City . . .	E. D
Gustin, Francis M . . .	Union City . . .	H. D	Thompson, Geo. W . . .	Union City . . .	E. D
Huddleston, A. F . . .	Winchester . . .	H. D	Thompson, Val . . .	Union City . . .	E. 10
Heiner, John . . .	Arba . . .	R. 3	Tizor, Wm. R . . .	Rural . . .	R. 10
Hunt, Henry C . . .	Trenton . . .	R. 10	Welbourne, E. L . . .	Union City . . .	E. D
Hunt, Pleasant . . .	Fairland . . .	E. 10	White, L. E . . .	Arba . . .	P.-M. D
Hiatt, John A . . .	Ridgeville . . .	E. D	Yergin, H. H . . .	Union City . . .	R. D

Regular, 45; Eclectic, 14; Physio-Medical, 10; Homeopathic, 2. Total, 71.

Ripley County.

<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>	<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>
Abbott, Mano	Milan	E. D	Miller, Robert H. . .	Cross Plains . . .	R. D
Abbott, June	Milan	E. D	Miller, Albert G. . .	Elrod	E. D
Anderson, James. . .	Versailles	R. D	Newforth, Christian .	Sunman	R. D
Brown, Charles M. . .	New Marion	R. D	Parsons, George E. .	Milan	E. D
Clark, Freeman . . .	Rio	R. D	ROBINSON, J. M. . .	Versailles	R. D
Cass, Chester H. . . .	Holton	R. D	Roberts, Jeremiah . .	Holton	R. 3
Davis, James R. . . .	Morris	R. D	Redlon, Daniel D. . .	Pierceville	R. 3
Freeman, Edward D. .	Osgood	R. D	Sweezy, John M. . . .	Cross Plains	E. 10
Freeland, John P. . .	Sunman	R. D	Schlosser, Geo. F. . .	Batesville	R. 10
Hicks, John C. . . .	Napoleon	P.-M. D	Sweezy, Frank C. . .	Cross Plains	E. D
Holbert, Wm. M. . . .	Elrod	R. D	Townsend, Samuel B. .	Osgood	R. D
Hess, John A.	New Marion	R. D	Vincent, Edwin B. . .	Sunman	R. D
Jones, John G. . . .	Versailles	R. D	Young, Robert W. . .	South Milan	R. D
Kreitzmeier, J. W. . .	Batesville	R. D	Wells, H. O.	Milan	R. D
Lamb, James M. . . .	Rei	E. D	Ziteke, Joseph	Batesville	R. D

Regular, 22; Eclectic, 7; Physio-Medical, 1.

Rush County.

Axiline, J. A.	Raleigh	R. D	Linn, H. G.	Rushville	H. D
Arnold, John.	Rushville	R. D	Moffitt, John	Rushville	R. D
Barnum, Wm. E. . . .	Manilla.	R. D	Megee, W. F.	Rushville	R. D
Bogart, H. J.	Carthage	R. 10	Megee, Omer	Rushville	R. D
Crippen, E. H.	Milroy	R. 10	McGaughy, John E. .	Arlington	R. D
Coffin, O. S.	Carthage	E. D	McMahan, S. W. . . .	Rushville	R. D
Dillion, J. C.	Rushville	R. D	Orr, James P.	Glenwood	R. D
Dillion, Otto P. . . .	Rushville	R. D	Pugh, Wm. A.	Rushville	R. D
Drake, E. J.	Carthage	R. D	Parson, Chas. H. . . .	Rushville	R. D
Elliott, H. H.	Glenwood	R. D	Ross, L. G.	Kaleigh	R. 10
Gilbert, Chas. H. . . .	Rushville	H. D	Rucker, Thomas . . .	Arlington	E. 10
Green, J. O.	Arlington	R. D	Sexton, Marshall . . .	Rushville	R. D
GREEN, LOT	Rushville	R. D	Sexton, J. O.	Rushville	R. D
Glass, T. F.	Arlington	R. 3	Smith, Wm. H.	Rushville	R. D
Hackleman, F. G. . . .	Rushville	R. D	Sparks, Jas. B. . . .	Carthage	R. D
Hargrave, W. S. . . .	New Salem	R. D	Spurrier, John H. . .	Rushville	R. D
Hobs, O. W.	Mays	R. D	Salisbury, Samuel . .	Milroy	E. 10
Inlow, J. W.	Manilla.	R. 10	Smalley, Chas. L. . .	Groves	R. D
Johnson, Wm. E. . . .	Falmouth.	E. D	Wooten, E. D.	Homer	R. D
Louden, L. A.	Manilla.	R. D			

Regular, 33; Homeopathic, 2; Eclectic, 4.

Scott County.

Biercy, T. E.	Scottsburgh	R. D	Isham, John H. . . .	Scottsburgh	R. D
Blotcher, J. B.	Blotcher	R. D	Lathrop, A. H.	Lexington	R. D
Carey, H. R.	Austin	R. D	Moser, J. S.	Vienna	E. 10
Davis, Wm. H.	Lexington	R. 10	Sarver, J. A.	New Frankfort. . . .	R. D
Green, W. E.	Lexington	E. 10	Warmoth, G. M. . . .	Scottsburgh	R. D
Houghland, M. E. M. .	Vienna	R. 10	WATSON, J. M.	Scottsburgh	R. D

Regular, 11; Eclectic, 11.

Shelby County.

Name.	Post Office.	School.	Name.	Post Office.	School.
Abernathy, A. A.	Morristown	B. 10	Lucas, I. N.	Shelbyville	H. D
Adams, James M.	Noah	(?) 10	Lowden, John	Carlton	E. D
Bowlby, Joseph	Noah	R. D	Leech, Elliot W.	Shelbyville	E. D
Baylor, Walker K.	Sulphur Hill	10	Louden, Lucean A.	London	R. 3
Ballard, D. J.	Waldron	R. D	McCrea, Robert S.	Morristown	R. D
Bentley, W. R.	Morristown	R. D	McFadden, Wm. G.	Shelbyville	R. D
Bruce, William E.	Shelbyville	H. D	MADDON, J. F.	Shelbyville	E. D
Connelly, Henry M.	Flat Rock	H. D	Parrish, J. W.	Shelbyville	E. D
Crippen, Edwin H.	Blue Ridge	R. 10	Pettigrew, D. A.	Flat Rock	R. D
Carter, James	Gwynneville	R. D	Posz, Margaret Will	Shelbyville	Midw. 10
Cox, Thomas A.	Flat Rock	E. D	Perry, John	Shelbyville	R. D
Coleman, E. E.	Winterrond	E. D	Rubush, Thomas R.	London	R. D
Drake, Morris	Shelbyville	R. D	Randolph, Daniel F.	Waldron	R. D
Drake, I. H.	Shelbyville	R. D	Rucker, Jesse W.	Shelbyville	R. D
Dearmin, John H.	Brookfield	R. D	Stewart, James K.	Fairland	R. D
Ford, W. M.	Mt. Auburn	R. D	Smith, Hezekiah	Fairland	R. 10
Floyd, R. M.	Shelbyville	R. D	Stewart, John B.	Marietta	R. 10
Fleming, Geo. W.	Shelbyville	R. D	Santord, Jas. H.	Shelbyville	R. 10
Gilmore, Moses R.	Fairland	R. D	Strickler, Stephen L.	Boggs town	E. D
Green, James W.	Shelbyville	R. D	Snider, John W.	Fairland	R. D
Green, James C.	Flat Rock	R. D	Steckhouse, Urbine	Morristown	R. D
Green, William F.	Free Port	R. D	Sprout, William T.	Blue Ridge	E. 10
Green, Thomas G.	Shelbyville	R. D	Trees, J. W.	Smithland	R. D
Howard, J. W.	St. Paul	R. 3	Taylor, John F.	Sulphur Hill	R. D
Inlow, James E.	Blue Ridge	R. D	Tindall, Charles A.	Shelbyville	E. D
Jones, Thomas S.	Shelbyville	R. D	Tull, Edward N.	Fairland	R. D
Jenkins, J. R.	Shelbyville	R. D	Wolf, Jacob G.	Morristown	R. D
Keeling, William R.	Sulphur Hill	E. D	Winter, Gustav	Shelbyville	R. 10
Kennedy, Samuel A.	Shelbyville	R. D	Whetzel, Frank F.	Morristown	R. 10
Kennedy, Thomas C.	Shelbyville	R. D	Washburn, R. F.	Waldron	R. 10

Regular, 43; Homeopathic, 2; Eclectic, 9; not reported, 5.

Spencer County.

Adye, George F.	Newtonville	R. D	John, B. B.	Newtonville	E. 10
Anderson, E. M.	Huff	R. D	Jones, William M.	Gentryville	R. D
Austin, Thomas R.	Chrisney	E. D	Killian, J. L.	Eureka	R. 10
Allenbaugh, E. E.	Hatfield	R. D	Lucas, L. B.	Buffalo ville	E. D
Bean, A. M.	Gentryville	E. D	Logsdon, Wm. T.	Eureka	R. D
Bryant, James B.	Gentryville	R. D	Littlepage, S. B.	Rockport	R. D
Bryant, W. S.	Dale	R. D	Lee, Hardin A.	Liberal	R. D
Billart, F. W.	Chrisney	R. 10	Lang, Jacob	Lake	H. D
Buxton, J. L.	Rockport	E. D	Lamar, H. L.	Eureka	H. D
Butler, J. M.	Troy, Perry Co.	E. D	Milner, I. S.	Rockport	R. D
Critchfield, J. S.	Lamar	E. D	Metcalf, A. F.	Dale	R. 10
Dalley, J. M.	Rockport	R. D	Myler, John M.	Eureka	R. D
Dyer, A. S.	Huffman	N. R. 10	Maslowsky, Felix	Mariah Hill	R. D
Ehrman, E. D.	Rockport	H. 3	McCoy, L. H.	Lake	R. D
Gatewood, T. H.	Midway	R. D	McCOY, GEO. W.	Chrisney	R. D
Gengelbach, E. E.	St. Meinrad	E. D	McKasson, John W.	Gentryville	R. 10
Hackelman, F. M.	Rockport	E. D	Schweizer, John J.	Santa Claus	R. 3
Harrison, E. P.	Rockport	N. R. 10	Turpin, James	Rockport	E. D
Hunter, S. W.	Chrisney	R. 3	Wright, Thomas	Midway	R. D
Hammond, D. M.	Grandview	R. D	White, J. T.	Grandview	R. 3
James, John B.	Buffalo ville	E. 10	Williams, Wm. H.	Dale	R. D
Jolly, John C.	Lake	R. D	Williams, S. J.	Dale	E. D
Johnson, T. J.	Dale	R. D			

Regular, 27; Homeopathic, 3; Eclectic, 12; not reported, 2.

Starke County.

Abner, John B.	Grovetown	P.-M. D	Henderson, Alex. H.	Knox	E. 10
Agnew, Thomas J.	San Pierre	R. D	Kelly, W. M.	Knox	R. D
BONAR, SAM'L S.	Knox	R. 10	Garner, Henry	Knox	E. 10
Bonar, M. C.	Knox	R. 3	Nolan, James F.	North Judson	R. D
Burson, A. H.	Hamlet	E. 10	Riggle, George W.	North Judson	R. 3
Ellen, Coffin	Davis	E. 10	Stuckman, Martin	Ora	E. 10
Glazebrook, L. D.	Knox	R. 10	Wright, Mark R.	Knox	E. 10

Regular, 7; Eclectic, 6; Physio-Medical, 1.

Steuben County.

<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>	<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>
Abbott, Lyman . . .	Fremont . . .	R. D	Moore, John H. . .	Angola . . .	E. 10
Brown, D. N. E. . .	Hamilton . . .	R. 10	McNabb, T. B. . .	Fremont . . .	R. D
Cameron, John F. . .	Hamilton . . .	R. D	Rausburg, Martin V.	Salem Center .	R. D
Clay, M. T. . . .	Salem Center .	E. D	Stauffer, E. R. . .	Fremont . . .	R. D
Dolph, Cassius M. .	Pleasant Lake .	R. D	Shaw, Marion F. . .	Angola . . .	R. D
Fulfer, S. H. . . .	Pleasant Lake .	R. D	Sherman, Fred . .	Flint	E. D
Goodale, Charles W.	Metz	R. D	Sherron, William E.	Turkey Creek .	E. D
Hamilton, Frank . .	Hudson	R. D	Waller, W. H. . . .	Angola	R. D
Hooking, William F.	Angola	H. D	WOOD, H. D. . . .	Angola	R. D
Keeslar, Geo. . . .	Orland	R. 10	Williams, F. B. . .	Angola	R. D
Kishpaugh, Geo. W.	Ray	H. D	Wood, T. F. . . .	Metz	R. D
Lease, Emanuel R. .	Angola	H. 10	Wallace, James F. .	Orland	R. 10
Lynch, P. H. S. . .	Crooked Creek .	R. D	Wilkinson, J. J. . .	Orland	R. 10
Lane, W. H. . . .	Angola	R. D			

Regular, 20; Eclectic, 4; Homeopathic, 3.

St. Joseph County.

Arlington, J. W. . .	Walkerton . .	R. D	Mitchell, H. A. . .	Lakeview . . .	R. D
Borough, John . .	Mishawaka . .	H. D	McAllister, E. W. .	South Bend . .	R. D
Brown, Jacob P. . .	South Bend . .	R. 10	McDonald, Thos. T.	New Carlisle . .	R. 10
Berteling, J. B. . .	South Bend . .	R. D	Miller, A. G. . . .	South Bend . .	R. 3
Burkett, Wm. . . .	Granger	R. D	MILLER, MARTIN .	South Bend . .	H. D
Butterworth, C. W.	South Bend . .	R. D	Montgomery, H. S.	South Bend . .	R. D
Camelon, T. R. . .	Mishawaka . .	R. D	Moore, John	Lakeville . . .	R. 10
Carpenter, Geo. W.	South Bend . .	R. D	Moore, Rob't . . .	Lakeville . . .	R. 10
Cassidy, John . . .	South Bend . .	R. D	Meyers, C. H. . . .	South Bend . .	H. D
Chaffee, W. D. . .	South Bend . .	H. D	Osborn, Margaret A.	South Bend . .	R. 10
Daner, Josephus . .	New Carlisle .	R. D	Osborn, Geo. A. . .	South Bend . .	R. D
Daugherty, C. A. .	South Bend . .	E. D	Partridge, J. M. . .	South Bend . .	H. D
Drollinger, E. M. .	South Bend . .	E. D	Pierce, Wm. . . .	Osceola	R. 10
Endley, Jas. F. . .	Walkerton . .	E. D	Pagan, Daniel . . .	South Bend . .	R. 10
Fink, Henry A. . . .	South Bend . .	R. D	Reese, J. M. . . .	Walkerton . .	R. D
Grimer, John H. . .	Mishawaka . .	E. D	Rupp, P. E. . . .	South Bend . .	R. 10
Grimer, Jas. F. . .	Mishawaka . .	R. 10	Sawyer, F. M. . . .	South Bend . .	E. D
Green, J. B. . . .	Mishawaka . .	R. 10	Shaffer, A. F. . . .	South Bend . .	R. D
Harris, Robt	South Bend . .	R. 10	Stockwell, Sarah F.	South Bend . .	R. D
Hanford, Wm. H. . .	South Bend . .	H. D	Thope, A. L. . . .	Mishawaka . .	R. D
Hill, J. W.	South Bend . .	R. 10	Todd, Samuel . . .	Woodland . . .	R. D
Jay, Manuel	South Bend . .	R. D	Underwood, Catherine	South Bend . .	H. D
Kimble, Cosenia . .	South Bend . .	R. 10	Varier, Jas	North Liberty .	R. D
Kilmer, Sam'l L. . .	South Bend . .	R. D	Variper, A. N. . . .	New Carlisle . .	R. D
McCool, A. W. . . .	Walkerton . .	R. 10	Wickham, W. A. R. .	South Bend . .	E. D
Mills, Charles . . .	South Bend . .	R. D	Woodworth, H. A. .	Walkerton . .	R. 3
Mitchner, Chas. F.	South Bend . .	R. D	Williams, Wm. O. .	South Bend . .	R. D

Regular, 40; Eclectic, 6; Homeopathic, 7.

Sullivan County.

Bennett, J. H. . . .	Farmersburgh .	E. D	Lisman, W. A. . . .	Carlisle	R. D
Briggs, C. F. . . .	Sullivan	R. D	Lisman, S. J. . . .	New Lebanon .	R. D
Brown, N. S. . . .	Dugger	R. 10	Lowder, C. M. . . .	Dugger	R. D
Buskirk, J. S. . . .	Shelburn . . .	R. 10	Mason, T. A. . . .	New Lebanon .	R. D
Crowler, R. H. . . .	Sullivan	R. D	Mathews, J. M. . .	Carlisle	R. D
Crowley, J. B. . . .	Sullivan	E. D	Mayfield, T. B. . .	Pleasantville .	R. D
Cushman, A. . . .	Grayville . . .	R. D	Murphy, J. S. . . .	Dugger	R. 3
Delashment, V. E. .	Shelburn . . .	R. D	Nebergall, J. W. .	Burchard . . .	R. 10
Denison, E. D. . . .	Carlisle	R. 10	Osborn, S. D. . . .	Shelburn . . .	R. D
Durham, J. L. . . .	Grayville . . .	R. D	Phillips, J. L. . . .	Sullivan	R. 3
FREEMAN, JOS. . . .	Sullivan	R. D	Plew, G. W.	Hymera	R. D
Fleming, W. A. . . .	Pleasantville .	R. 3	Stone, W. O.	Fairbanks . . .	R. D
Harper, H. F. . . .	Merom	R. D	Thompson, J. J. . .	Sullivan	R. 3
Harper, J. B. . . .	Shelburn . . .	R. 10	Thompson, W. N. .	Sullivan	R. D
Higbee, G. W. . . .	Sullivan	H. D	Thralls, R. T. . . .	Hymera	R. D
Higbee, J. L. . . .	Sullivan	H. D	Vanceleve, R. H. .	Farmersburgh .	R. D
Jenkins, R. L. . . .	Carlisle	R. 3	Weir, S. D.	Sullivan	R. D
Kennady, Thos. . . .	Farmersburgh .	E. D	Whalen, D. M. . . .	Carlisle	R. 10
Lisman, J. W. . . .	Buell City . . .	R. D	Young, J. M.	Carlisle	R. D

Regular, 26; Eclectic, 3; Homeopathic, 2.

Switzerland County.

Name.	Post Office.	School.	Name.	Post Office.	School.
Cheever, E. M. . . .	Queerus Grove . . .	R. 10	McMillian, Wm . . .	Sugar Branch . . .	R. 10
Clarke, R. E. . . .	Mt. Sterling . . .	R. D	Olcott, W. A. . . .	Patriot . . .	R. D
Copeland, R. M. . . .	Bennington . . .	R. D	Price, Oliver A. . . .	Markland . . .	R. D
Craig, Albert E. . . .	Vevay . . .	R. D	Rous, Hannah C. . . .	Vevay . . .	R. D
Culbertson, Scott. . . .	Moorefield . . .	R. D	Sage, P. S. . . .	Vevay . . .	R. 10
Dalglish, H. T. . . .	Vevay . . .	R. D	Shadday, J. H. . . .	Vevay . . .	R. D
Elfers, John . . .	Sugar Branch . . .	R. D	Simpson, R. G. . . .	East Enterprise . . .	R. D
Finley, Joseph . . .	Patriot . . .	R. D	Smith, J. W. . . .	Vevay . . .	H. D
Hayden, D. N. . . .	Florence . . .	R. D	Van Osdol, J. W. . . .	Allensville . . .	R. D
Holland, P. C. . . .	Patriot . . .	R. D	VAN PELT, GEO. W. . . .	Vevay . . .	R. D
Jamison, R. A. . . .	Mt. Sterling . . .	R. D	Walden, Jas. B. . . .	Mt. Sterling . . .	E. D
Langedale, J. M. W. . . .	Vevay . . .	R. D			

Regular, 21; Eclectic, 1; Homeopathic, 1.

Tippecanoe County.

Ackerman, Aug. C. . . .	Lafayette . . .	H. D	Motter, Thos. S. . . .	Dayton . . .	R. 10
Anderson, Joseph H. . . .	Colburn . . .	R. D	Nesbit, Wm. Seward . . .	Monitor . . .	R. D
Barcus, Paul . . .	Odell . . .	R. D	Nivison, Alice C. . . .	Lafayette . . .	H. D
Baker, Joseph H. . . .	Stookwell . . .	R. D	O'Ferrall, Robt. M. . . .	Lafayette . . .	R. D
Baugh, Samuel L. . . .	Farmers' Inst . . .	R. D	Ogborn, Job O. . . .	Lafayette . . .	E. 10
Beasley, Geo. F. . . .	Lafayette . . .	R. D	Orth, Wm. M. . . .	Lafayette . . .	R. D
Bovd, Beni. H. . . .	Lafayette . . .	R. D	Peters, W. H. . . .	Lafayette . . .	R. D
Brown, W. C. . . .	Buck Creek . . .	R. D	Potel, Christian . . .	Lafayette . . .	R. D
Burns, Geo. W. . . .	No. 10. . . .	E. 10	Powers, E. D. . . .	Lafayette . . .	R. D
Campbell, Wm. S. . . .	West Point . . .	R. D	Pyke, A. D. . . .	Romney . . .	R. D
Charles, Robert E. . . .	West Point . . .	R. 10	Rainey, H. W. . . .	Lafayette . . .	R. D
Charter, John H. . . .	Lafayette . . .	R. D	Riddile, H. D. . . .	Battle Ground . . .	R. 10
Crider, Geo. W. . . .	Buck Creek . . .	R. D	Robinson, Robt. D. . . .	Colburn . . .	R. D
Crouse, J. H. . . .	Dayton . . .	R. D	Schaible, Emil . . .	Lafayette . . .	R. D
Dienhart, Michael . . .	Lafayette . . .	R. 10	Seawright, S. R. . . .	Lafayette . . .	R. D
Dunbar, James . . .	Battle Ground . . .	R. 10	Shill, C. W. . . .	Lafayette . . .	R. D
Fickel, J. M. . . .	Stookwell . . .	E. D	Simison, John . . .	Romney . . .	R. 10
Fox, Stiles R. . . .	Lafayette . . .	R. 3	Simison, J. P. . . .	Romney . . .	R. D
Goldberry, S. S. . . .	Montmorenci . . .	R. D	Smith, J. M. . . .	Lafayette . . .	H. D
Harbaugh, A. C. . . .	Battle Ground . . .	R. D	Snyder, Leander . . .	Lafayette . . .	R. 10
Hill, Wm. H. . . .	Dayton . . .	R. D	Taylor, W. R. . . .	Clark's Hill . . .	R. D
Hillis, James D. . . .	Lafayette . . .	R. D	Tea, Roger S. . . .	Battle Ground . . .	R. D
Hines, F. T. . . .	West Lafayette . . .	R. D	THROCKMORTON, G. K. . . .	Lafayette . . .	R. D
Hopper, Milton S. . . .	Lafayette . . .	R. D	Todd, W. E. . . .	West Lafayette . . .	E. D
Hupe, Carl . . .	Lafayette . . .	R. D	Vinnedge, W. W. . . .	Lafayette . . .	R. D
Ingersoll, B. F. . . .	Lafayette . . .	R. D	Walker, W. S. . . .	Lafayette . . .	R. D
Irwin, Luther M. . . .	Lafayette . . .	R. D	Washburn, Geo. W. . . .	Lafayette . . .	E. D
Keiper, Geo. Fred . . .	Lafayette . . .	R. D	Washburn, S. S. . . .	Lafayette . . .	R. D
Kirkpatrick, Geo. W. . . .	Culver . . .	R. 10	Webster, J. C. . . .	Lafayette . . .	R. D
Koonse, Jeremiah P. . . .	Lafayette . . .	E. 10	Wells, Albert A. . . .	Lafayette . . .	R. D
Labaree, Wm. . . .	Clark's Hill . . .	R. 3	Westfall, Arthur B. . . .	Elston . . .	R. D
Littell, John V. . . .	Lafayette . . .	R. D	Wetherill, R. B. . . .	Lafayette . . .	R. D
Mace, Wm. D. . . .	Lafayette . . .	R. D	Yeager, J. W. . . .	Odell . . .	R. D
Moffitt, Wm. R. . . .	West Lafayette . . .	R. D	Yeakel, David T. . . .	Lafayette . . .	R. D
Moffitt, R. R. . . .	Octagon . . .	R. D	Yount, Silas T. . . .	Lafayette . . .	R. D

Regular, 61; Eclectic, 6; Homeopathic, 3.

Tipton County.

Armfield, Tilmond O. . . .	Tipton . . .	R. D	Louder, Wm. P. . . .	Jackson . . .	R. D
Austin, Winser . . .	Windfall . . .	R. 10	McCreary, Oliver P. . . .	Nevada . . .	R. 3
Collins, George M. . . .	Tipton . . .	R. D	Newcomer, M. V. B. . . .	Tipton . . .	R. D
Cooper, John . . .	Groomsville . . .	P-M. D	Pitzer, Andrew B. . . .	Tipton . . .	R. D
Doan, Nathan W. . . .	New Lancaster . . .	R. 10	Repp, George R. . . .	Goldsmith . . .	R. D
DICKEY, A. S. . . .	Tipton . . .	R. D	Rubush, D. P. . . .	Sharpville . . .	R. 3
Downing, Samuel G. . . .	Hobbs . . .	R. D	Read, Horace G. . . .	Tipton . . .	R. D
Grove, Jasper M. . . .	Tipton . . .	R. 10	Ross, L. N. . . .	Ekin . . .	E. 10
Gossett, Lucy . . .	Kempton . . .	E. D	Rhoads, Anna E. . . .	Tipton . . .	R. 10
Green, Wm. A. . . .	Kempton . . .	R. 3	Stephenson, Jos. A. . . .	Kempton . . .	R. 3
Hilldrup, J. R. . . .	Windfall . . .	P-M. D	Spitmesser, Jno. L. . . .	Windfall . . .	E. 10
Huron, Willis B. . . .	Tipton . . .	H. D	Somers, Jos. A. . . .	Windfall . . .	R. 10
Jessup, John T. . . .	Curtisville . . .	R. D	Vickrey, M. V. B. . . .	Tipton . . .	R. D
King, Frank B. . . .	Windfall . . .	R. D	Whelchel, Thos. C. . . .	Goldsmith . . .	R. 10
Lindsay, Jas. P. . . .	Sharpville . . .	R. 10	Wood, George C. . . .	Windfall . . .	R. D

Regular, 24; Homeopathic, 1; Eclectic, 3; Physio-Medical, 2.

Union County.

Name.	Post Office.	School.	Name.	Post Office.	School.
Fosdick, A. H.	Liberty	R. 10	Pigman, G.	Liberty	R. D
Gardner, J.	Brownsville	E. D	Seigler, Geo. A.	Liberty	R. D
Kell, S. D.	Liberty	10	Shriner, W. W.	Liberty	E. 10
Moore, H. H.	Liberty	R. D	Smith, J. A.	Brownsville	10
Morris, J. E.	Liberty	R. D	THOMPSON, E. C.	Liberty	H. D

Regular, 5; Eclectic, 2; Homeopathic, 1; not reported, 2.

Vanderburgh County.

Archilles, F. W.	Evansville	R. D	Maghee, Wm. H.	Evansville	R. D
Allen, L. R.	Evansville	R. 3	Mason, Chas. H.	Evansville	R. D
Alexander, Wm.	Evansville	R. 3	McClurkin, J. C.	Evansville	R. D
Armistead, R. A.	Vanderb'gh Co.	R. D	McCoy, B. F.	Evansville	R. D
Anderson, J. E.	Evansville	R. D	McCoy, P. Y.	Evansville	R. D
Bacon, C. P.	Evansville	R. D	McMahan, C. Agnes	Evansville	R. D
Bagley, B. W.	Vanderb'gh Co.	R. D	Moore, D. A.	Evansville	R. 3
Bennett, A. T.	Evansville	R. D	Mountonnx, C. G. R.	Vanderb'gh Co.	R. D
Binkley, J. T.	Evansville	R. D	Michlhausen, M.	Evansville	R. D
Bray, M. J.	Evansville	R. D	McKeown, H. John	Evansville	R. D
Brove, L. D.	Evansville	R. D	Owen, A. M.	Evansville	R. D
Bryan, A. H.	Evansville	R. D	Owen, John E.	Evansville	R. D
Bryan, Tony	Evansville	R. D	Ocklman, C. L.	Evansville	R. D
Buckner, G. W.	Evansville	E. D	Ottman, P.	Evansville	R. R
Carter, E. L.	Evansville	R. D	Penington, J. J.	Evansville	R. D
Clippinger, W. F.	Vanderb'gh Co.	R. D	Pirnet, John	Evansville	R. D
Compton, J. W.	Evansville	R. D	Pollard, Wm. S.	Evansville	R. D
Compton, Fred.	Evansville	R. D	Powell, T. E.	Evansville	R. D
Corlew, R. M.	Evansville	R. D	Pritchett, W. S.	Evansville	R. D
Cosby, G. P.	Evansville	R. D	Ralston, W. H.	Evansville	R. D
Clark, John E.	Evansville	R. D	Reavis, W. J.	Evansville	R. D
Cox, David A.	Evansville	R. D	Rose, W. B.	Evansville	R. D
Davis, F. L.	Evansville	R. D	Ruark, Thomas H.	Evansville	R. D
Day, B. J.	Evansville	R. D	Rucker, Thomas H.	Evansville	R. D
Dixon, H. T.	Evansville	R. D	Rea, Wm. D.	Evansville	R. D
Doyle, John	Evansville	R. D	Sawyer, F. W.	Evansville	R. D
Elliot, Cy., Jr.	Vanderb'rg Co.	R. 10	Schultz, Theodore	Evansville	H. 10
Failing, Walter	Evansville	R. 10	Shuyler, P. L.	Evansville	R. D
Fritsch, Ludwig	Evansville	R. D	Sieffert, A. H. H.	Evansville	R. D
Fritsch, Wm. A.	Evansville	R. D	Snyder, C. S.	Evansville	R. D
Gilbert, George	Evansville	R. 10	Spencer, E.	Evansville	R. 10
Gilbert, Wm. H.	Evansville	R. D	Taylor, T. H.	Evansville	H. D
Glover, John F.	Evansville	R. D	Tyrell, C. C.	Evansville	H. D
Graham, J. J.	Evansville	E. 10	Tillman, M.	Evansville	R. 10
Green, W. S.	Evansville	R. 3	Thomas, A. G.	Evansville	R. D
Gumaer, C. H.	Evansville	R. D	Varner, Geo. W.	Evansville	R. D
Hartloff, Richard	Evansville	R. D	Viche, Casper H.	Evansville	R. D
Hayden, A. M.	Evansville	R. D	Vaughan, G. T.	Evansville	R. D
Herr, L. S.	Evansville	R. 10	Walker, Ed.	Evansville	R. D
Hodson, George P.	Evansville	R. D	Walters, H. J.	Vanderb'gh Co.	R. D
Hooker, H. H.	Vanderb'gh Co.	R. 10	Watkins, R. B.	Evansville	R. D
Hayhurst, A. S.	Evansville	R. 10	Weever, J. B.	Evansville	R. D
Henderson, S. C.	Vanderb'gh Co.	R. D	Wilde, O. E.	Evansville	R. 10
Hayward, Thomas	Evansville	R. D	Williams, Floyd	Evansville	R. D
Hubbard, H. C.	Evansville	R. D	Williams, Thomas F.	Evansville	R. D
Illing, A. F.	Evansville	R. 10	Wilton, Josiah	Evansville	R. D
JACOBSON, JOS.	Evansville	R. D	Worsham, L.	Evansville	R. D
Kerth, J. H.	Evansville	R. D	Witting, A. P.	Evansville	R. D
Knapp, Charles	Evansville	R. D	Weber, Wm.	Evansville	R. 10
Laval, Wm. J.	Evansville	R. 10	Werz, T.	Evansville	R. D
Linthicum, Ed.	Evansville	R. D	Young, G. M.	Evansville	R. D
Macer, Thomas.	Evansville	E. D			

Regular, 101; Homeopathic, 4; Eclectic, 1.

Vermillion County.

Bogart, John H.	Clinton	R. D	McNeil, George H.	Perrysville	R. 10
Barnes, James A.	Gessie	R. D	Morton, W. C. P.	Hillsdale	R. 10
HALL, M. L.	Newport	R. D	Nebeker, Henry	Clinton	R. D
Hall, W. T.	Gessie	R. D	Newton, G. O.	Dana	R. D
Harrison, John C.	Hillsdale	E. 10	Patterson, W. P.	Toronto	R. 3
Hood, Thomas C.	Dana	R. D	Price, William S.	St. Bernice	R. D
Johnson, David B.	Perrysville	R. 10	Shepard, Hiram	Dana	R. D
Keyes, Otis M.	Dana	R. D	Shepard, Lewis	Newport	R. D
Kiuderman, Alex.	Eugene	R. D	Smith, Elmer M.	Cayuga	R. D
Lonsdale, Thos. N.	St. Bernice	R. D	White, Charles M.	Clinton	R. D
Loomis, E. C.	Perrysville	R. 3	Wallace, James	Newport	R. D
Mack, Brastus	Hillsdale	E. 10	Webb, James B.	Perrysville	R. 10

Regular, 22; Eclectic, 2.

Vigo County.

<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>	<i>Name.</i>	<i>Post Office.</i>	<i>School.</i>
Armstrong, Wm. P.	Terre Haute	R. D	Link, John E.	Terre Haute	R. D
Askern, Cort F.	Terre Haute	R. D	Leachman, James S.	Burnett	R. D
Brunker, James W.	Riley	R. D	Lloyd, Thos. A.	Prairieton	R. D
Baldrige, John H.	Terre Haute	E. D	Melton, Seth B.	Fontanet	R. 3
Ball, Lawrence S.	Prairieton	E. D	Marian, Thos. C.	Terre Haute	R. D
Bennett, Stephen M.	New Goshen	E. D	Moorehead, Thos. W.	Terre Haute	R. D
Brown, Theo. F.	Sandford	R. 10	Mattox, W. R.	Terre Haute	R. D
Belt, Richard	Sandford	E. D	Moore, Wilnot A.	Terre Haute	H. D
Ball, Cutler T.	Terre Haute	R. D	Mason, John C.	Terre Haute	R. D
Brock, Leonidas G.	Fontanet	R. D	Marlow, Austin	Terre Haute	E. 10
Bruillette, Samuel L.	Lewis	R. D	McClain, Leslie	Terre Haute	R. D
Baker, Will H.	Terre Haute	H. D	McJohnston, A. D.	Pimento	R. D
Bell, Will E.	Terre Haute	R. D	McLaughlin, James	Seeleyville	R. D
Crawley, Thomas N.	Terre Haute	R. D	McCorkle, Thos. H.	Ellaworth	R. D
Crapo, Geo. W.	Terre Haute	R. D	Moore, James A.	Prairie Creek	R. D
Crapo, John R.	Terre Haute	R. D	Morgan, John H.	New Goshen	R. D
Collins, Wm. O.	Pimento	R. D	Nebergall, James W.	Prairie Creek	R. 10
Carson, Lewis E.	Prairieton	R. D	Ogle, Jacob W.	Prairieton	R. D
Caldwell, Henry H.	Terre Haute	R. 10	Preston, S. C.	Terre Haute	R. D
Casto, Jabez C.	Terre Haute	R. D	Pike, Lyman	Terre Haute	E. 10
Cole, Willis H.	Terre Haute	R. D	Pence, Allen	Terre Haute	E. 10
Carson, Julian C.	Middletown	R. D	Pierson, Andrew J.	New Goshen	R. D
Cavins, Riley W.	Terre Haute	R. D	Price, Wm. S.	Atherton	R. 3
Cole, John H.	Terre Haute	R. D	Pierson, James A.	New Goshen	R. D
Dooly, Rufus L.	Atherton	R. 3	Roberts, Wm. H.	Terre Haute	R. D
Dolson, James B.	Pimento	R. 10	Richardson, S. C.	Terre Haute	P. M. D
Drake, Thomas G.	Terre Haute	R. D	Russell, Charles W.	Riley	R. D
Davis, John W.	Pimento	R. D	Rice, Spencer M.	Terre Haute	R. D
Drake, James F.	Prairieton	R. D	Swafford, Benj. F.	Terre Haute	R. D
Dowell, Solomon	Middletown	E. 10	Spain, A. W.	Terre Haute	R. D
Davis, Wm. S.	Terre Haute	R. D	Shaley, Fred W.	Terre Haute	R. D
Davis, Floyd M.	Terre Haute	R. D	Stunkard, T. C.	Terre Haute	R. D
Drake, Thos. A.	Prairieton	R. D	Swap, John H.	Sandford	R. 10
Elder, Wm. R.	Terre Haute	H. D	Shickel, John T.	Terre Haute	R. 10
Eichelberger, Wm. C.	Terre Haute	R. D	Stark, W. I.	Fontanet	H. D
Erskine, Amos C.	Terre Haute	R. D	Stock, Lewis	Lewis	E. D
Gerstmeier, Chas. P.	Terre Haute	R. D	Standacker, Albert	Terre Haute	R. 3
Glover, E. E.	Terre Haute	R. D	Spottswood, E. T.	Terre Haute	R. D
Givin, Charles C.	Lewis	R. D	Schell, Walker	Terre Haute	R. D
Graham, Franklin B.	Farmersburg	R. 10	Treat, Horace T.	Terre Haute	P. M. D
Gilmore, Andrew H.	Terre Haute	E. 3	Tomlin, Benj.	Terre Haute	R. D
Griffith, Lewis C.	Lockport	R. D	Thompson, H. H.	Terre Haute	H. D
Hartley, Hiram	Terre Haute	R. D	Thompson, M. H.	Prairie Creek	R. D
Hickman, Cornelius	Fontanet	R. D	Talbot, John H.	Prairie Creek	R. 10
Heyde, John	Terre Haute	H. 3	Willien, Leon J.	Terre Haute	R. D
Haynes, David	Terre Haute	E. 10	Walters, Jacob A.	Terre Haute	R. D
Hawarth, W. W.	Terre Haute	R. D	Walters, Moses H.	Terre Haute	H. D
Hunt, John S.	Maxville	R. D	WEINSTEIN, LEO J.	Terre Haute	R. D
Hunt, Stephen	Terre Haute	R. D	Worrel, J. P.	Terre Haute	R. D
Huff, John H.	Sandford	R. 10	Wilson, A. L. M.	Terre Haute	H. D
Hinkle, James S.	Terre Haute	R. D	Willis, Stephen B.	Terre Haute	E. 10
Jenkins, Wilber O.	Terre Haute	R. D	Willis, James R.	Terre Haute	R. D
Kennedy, Thomas W.	Lewis	R. D	Watkins, Samuel S.	Ellaworth	R. D
Langhead, James T.	Terre Haute	R. D	Young, Stephen J.	Terre Haute	R. D
Larkins, Edgar L.	Terre Haute	R. D	Zimmerman, C. F.	Terre Haute	R. D
Littlejohn, Henry C.	Riley	R. D			

Regular, 89; Eclectic, 13; Homeopathic, 8; Physio-Medical, 2.

Wabash County.

Name.	Post Office.	School.	Name.	Post Office.	School.
Ader, Henry	Somerseset	R. D	King, Clifford H.	Rich Valley	R. D
Blount, Rufus F.	Wabash	R. D	Lower, Melville O.	N. Manchester	R. D
Biggerstaff, Jas. T.	Lagro	R. D	Lancaster, Thos. A.	N. Manchester	R. D
Broadbeck, Gus. H.	Roann	R. D	Minnick, Horace	Treaty	R. D
Brady, Thompson R.	Wabash	R. D	Mooney, Henry C.	Laketon	R. D
Brady, C. C.	Lincolnvillle	R. D	Modrecker, John M.	Wabash	R. D
Bloomer, Frank H.	Lagro	R. D	Moore, Perry G.	Wabash	R. D
Bricker, Wm.	Lincolnvillle	R. D	Miesner, Harry E.	Servia	R. D
Dicken, Jas. K.	Lafontaine	R. D	Martin, Henry E.	Urbana	R. D
Dicken, Constantin L.	Lafontaine	R. D	McGrew, W. H.	Lafontaine	E. D
Donaldson, E. F.	Wabash	R. D	Richards, John	Dora	R. D
Dunn, Wesley A.	Wabash	H. D	Renner, John H.	Lagro	R. D
Ellis, Chas. S.	Wabash	R. D	Renner, Emanuel	Lagro	R. D
FORD, J. H.	Wabash	R. D	Smith, Andrew J.	Wabash	R. D
Ginther, David	N. Manchester	E. D	Stradley, Daniel	Wabash	R. D
Gasharn, David A.	N. Manchester	R. D	Studley, Joseph	Lafontaine	R. D
Hale, Marcus M.	Wabash	R. D	Shaffer, Phillip	N. Manchester	R. D
Hale, Norman	Wabash	E. D	Shelhammer, D. C.	Puckerbrush	R. D
Hubbard, Elias	N. Manchester	R. D	Thomas, A. McD.	Lafontaine	R. D
Jessup, Louisa	Wabash	R. D	Tresh, Phillip	Liberty Mills	R. D
Kidd, Gideon P.	Roann	R. D	Wells, Wm.	Laketon	R. D
Kautz, John	Lagro	R. D	Winton, Horace	N. Manchester	R. D

Regular, 39; Eclectic, 4; Homeopathic, 1.

Warren County.

Campbell, P. B.	West Lebanon	R. D	Osborn, Squire N.	Williamsport	R. D
DeHart, Jacob	Williamsport	R. D	Prent, J. H.	Marshfield	R. 10
Fenton, S. C.	Pine Village	R. D	Roseberry, I. A.	Independence	R. 10
Fleming, Wm. H.	West Lebanon	R. 10	Stewart, J. C.	Marshfield	R. D
Green, Wm. H.	Hedrick	R. D	SWANK, LEROY	Williamsport	R. D
Hoffman, C. H.	Raineville	R. D	Vick, William B.	Green Hill	E. D
McMullen, J. W.	Pine Village	R. 3	Watson, J. R.	West Lebanon	R. D

Regular, 13; Eclectic, 1.

Warrick County.

Beeler, Jerome S.	Boonville	H. D	Lake, George.	Newburg	R. D
Brown, Lee	Heilman	R. D	Musgrave, S. D.	Newburg	H. D
Brown, A. P.	Wheatonville	R. 3	Maganheimer	Elberfeld	R. D
Baldwin, I. J.	Lynville	R. D	Milis, W. Henry	Folsomville	R. D
Bradley, John H.	Folsomville	E. 10	McCoy, T. J.	Eby	R. 10
Camp, George H.	Lynville	E. 10	McCool, H. T.	Chandler	R. D
Camp, Joseph W.	Lynville	E. 10	McVey, W. H.	DeGonia	R. 10
Camp, W. F.	Lynville	E. 3	Newton, J. A.	Boonville	H. 10
Camp, W. O.	Dickeyville	E. 10	Quiatt, Allison	Tennyson	E. 10
Daily, T. G.	Boonville	R. 10	Rhodes, R. R.	Yankeetown	H. D
DeForest, D. A.	Boonville	R. D	Seales, W. B.	Boonville	R. D
Grim, Simon	Wheatonville	R. D	Shaul, M.	Boonville	R. D
Howard, T. M.	Boonville	R. D	Smith, Thomas	Canal	R. D
Hewins, W. A.	Chandler	R. D	Slaughter, W. W.	Newburgh	R. D
Hamilton, John S.	Newburg	N. R	Seales, T. D.	Boonville	R. D
Hedden, G. J.	Selvin	R. 10	Temple, W. R.	Selvin	R. 10
Hammel, John	Lynn	R. D	Tyner, S. L.	Chandler	R. D
Hoover, P. N.	Boonville	H. D	Tillman, J. R.	Newburgh	R. D
Honeycutt, W. J.	Ditney	R. 3	Thompson, P. S.	Newburgh	R. D
Hart, E. H.	Tennyson	R. 3	West, E. A.	Folsomville	R. 10
Jones, T. B.	Lynville	R. D	Wilson, Wesley	Yankeetown	R. D
Keegan, C. J.	Canal	R. D	Watson, W. D.	Tennyson	R. 10
Keifer, Charles	Newburg	R. 10	Walden, W. M.	Newburgh	R. D
Long, J. J.	Newburg	R. 10	Zimmerman, J.	Lynnvillle	R. D

Regular, 38; Eclectic, 5; Homeopathic, 5; not reported, 1.

Washington County.

Name.	Post Office.	School.	Name.	Post Office.	School.
Applegate, George	South Boston.	R. 10	MURPHY, C. W.	Salem.	R. D
Baker, T. H. B.	Pekin.	R. D	Martin, R. W.	Salem.	R. D
Barnett, J. T.	Hardinsburg	R. D	McPheeters, J. S.	Hardinsburg	R. D
Bright, W. H.	Martinsburg	R. D	Martin, W. H.	Campbellsburg	R. 10
Bradshaw, A. E.	Halo	R. D	Neyman, E. M. C.	Saltilloville	R. 10
Bare, John R.	Salem.	R. D	Oatley, J. H.	N. Philadelphia	R. 10
Duff, S. W.	Salem.	R. D	Overman, E. T.	Salem.	P. M. D
Deweese, G. W.	Fredricksburg	R. 10	Overman, W. M.	Salem.	P. M. D
Doolittle, J. H.	Campbellsburg	R. D	Paynter, C. L.	Salem.	R. D
Ferree, Isaac	Livonia.	R. D	Paynter, H. M.	Salem.	R. D
Hudson, L. H.	Little York.	E. D	Purkhiser, W. J.	Salem.	R. D
Howard, S. B.	Kossuth.	R. 3	Rathburn, Charley	Salem.	R. 10
Hancock, G. S.	Campbellsburg	R. D	Roberts, Sam A.	Fredricksburg	R. D
Herron, T. W.	Lesterville	R. 10	Schoonover, W. S.	Hardinsburg	R. 10
Hobbs, H. C.	Salem.	E. D	Tucker, Thomas M.	Salem.	R. D
Hoggatt, M. L.	Salem.	E. 10	Tucker, W. W.	Little York.	R. D
Henderson, H. D.	Salem.	R. D	Voyles, V. A.	Livonia.	R. 3
Lockhart, Thomas	Campbellsburg	E. 3	Wier, A. G.	Kossuth.	R. D
Layman, J. H.	Chestnut Hill.	R. 10	Wilson, R. J.	Salem.	R. D

Regular, 32; Eclectic, 4; Physio-Medical, 2.

Wayne County.

Allen, John B.	Hagerstown	R. D	Lowe, G. N.	Hagerstown	N. R. D
Beam, Alfred H.	Williamsburg	P. M. D	Mank, J. R.	Cambridge City	R. D
Broadwell, Wilmer	Cambridge City	R. D	Merideth, C. F.	Richmond	R. D
Boyd, H. B.	Cambridge City	R. D	Modlin, L. H.	Vettle Creek	R. D
Bond, Chas. S.	Richmond	R. D	McTaggart, O. R.	Dublin	E. D
Bailenger, W. L.	Richmond	R. D	McClelland, J. S.	Dublin	E. D
Benham, H. C.	Richmond	E. D	Mann, L. S.	Dublin	H. D
Ballard, N. H.	Richmond	R. D	Meek, Joseph B.	Webster	R. 10
Bappart, A.	Richmond	R. 10	Mendenhall, W. O.	Richmond	R. D
Bulla, J. M.	Richmond	H. D	Morrow, Sarah J.	Richmond	R. 3
Buntin, E. A.	Greensfork	R. D	Murray, Nancy J.	Richmond	N. R. 3
Baldwin, Geo. C.	Dalton	N. R. 3	McDivitt, E. G.	Richmond	H. D
Colburn, C. P.	Richmond	R. D	McSimmons, John	Richmond	E. D
Canaday, N. F.	Hagerstown	H. D	Mc'ormack, Wm. D.	Richmond	P. M. D
Clark, J. B.	Economy	R. D	Neff, W. W.	Greensford	R. 3
Carpenter, D. L.	Cambridge City	N. R. 10	Pitman, Henderson	Hagerstown	R. 3
Dempsey, Wm. S.	Richmond	R. D	Quick, J. C.	Hagerstown	P. M. D
Draley, Oran E.	Richmond	R. D	Rife, J. J.	Boston	R. D
Duval, T. H.	Richmond	H. D	Rusk, Anna P.	Richmond	P. M. D
Egolf, Harvey M.	Fountain City	R. D	Robbins, G. W.	Richmond	R. D
Emmons, Joshua	Richmond	H. D	Reynolds, Marg't J.	Richmond	H. D
Fisher, A. W.	Richmond	P. M. D	Study, J. W.	Cambridge City	R. D
Gabel, Harrison	Centreville.	R. D	Salisbury, Samuel	Dublin	N. R. 10
Gentle, Luke W.	E. Germantown	R. D	Shoe, R. L.	Richmond	H. D
Grosvenor, E. B.	Dublin	H. D	Sweeney, I. F.	Milton	R. D
Gray, Joseph H.	Dublin	E. D	Summers, J. B.	Milton	R. D
Grimm, W. T.	Whitewater	E. D	St. Clair, J. W.	Milton	R. 10
Graham, Wm. B.	Whitewater	E. 3	Swallow, J. E.	Abington	R. D
Hastings, S. G.	Richmond	H. D	Schiltneck, V. G.	Hagerstown	R. D
Hubbard, Wm. H.	Dublin	E. D	Tillson, Hosea	Centreville	R. 10
Hale, Thomas T.	Dublin	E. D	Taylor, L. B.	Dublin	R. 10
Helm, W. M.	Williamsburg	E. D	Thurston, E. H.	Hagerstown	P. M. D
HIBBERD, JAS. F.	Richmond	R. D	Taylor, L. P.	Williamsburg	P. M. D
Harold, Cyrus, N.	Richmond	P. M. D	Taylor, James E.	Richmond	R. D
Hobbs, M. H.	Richmond	R. D	Teague, Isaac C.	Richmond	H. 10
Haynes, M. H.	Richmond	R. D	Thurston, J. M.	Richmond	P. M. D
Hopkins, Robt. R.	Richmond	R. D	Taylor, T. W.	Fountain City	R. D
Harter, Wm. W.	Hagerstown	P. M. D	Walls, John A.	Richmond	P. M. D
Johnson, W. A.	Chest.	E. D	Watts, E. K.	Richmond	R. D
Johnson, L. C.	Fountain City	R. D	Wampler, J. M.	Richmond	R. 3
Johnston, M. F.	Richmond	R. D	Weiss, Edward F.	Richmond	R. D
King, Wm. F.	Centreville	R. D	West, J. R.	Richmond	R. D
Kersey, S. H.	Centreville	R. D	Williams, Edmund	Richmond	R. D
Kinsey, J. H.	Richmond	P. M. D	Wright, Jacob E.	Cambridge City	H. D
King, J. E.	Richmond	R. D	Wright, I. E.	Hagerstown	E. D
Kersey, C. A.	Richmond	R. D	Witmer, B. M.	Milton	E. 10
Kersey, L. S.	Richmond	R. D	Wray, Hardy	Dublin	E. 10
Lorimer, J. H. O.	Centreville	R. D	Zimmerman, Wm.	Richmond	H. D
Luken, J. H.	Richmond	R. D			

Regular, 53; Homeopathic, 12; Eclectic, 14; Physio-Medical, 12; not reported, 4.

Wells County.

Name.	Post Office.	School.	Name.	Post Office.	School.
Bugh, Jno. W	Bluffton	R. D 10	Metts, J. I	Ossian	R. D 10
Cassel, Geo. W	Keystone	R. D 10	Metts, J. A	Ossian	R. D 10
COOK, L. H	Bluffton	R. D 10	Morris, T	Mount Zion	R. D 10
Doster, H. L	Poneto	R. D 10	Murray, L. E. . . .	Zanesville	R. D 10
Davenport, —	Bluffton	R. D 10	Mickey, H. P. . . .	Keystone	R. D 10
English, C. H	Uniondale	R. D 10	Neff, I. M. . . .	Mount Zion	R. D 10
Fitzpatrick, J. D . . .	Vera Cruz	R. D 10	Newman, M. A. . . .	Ossian	R. D 10
Fulton, Geo	Bluffton	R. D 10	Noble, Henry Z. . . .	Zanesville	R. D 10
Fulton, J. C	Bluffton	R. D 10	Ransom, Jno. A. . . .	Barber's Mills	R. D 10
Goodwin, S. G	Nottingham	R. D 10	Rinear, E. . . .	Liberty Center	R. D 10
Garrett, F. W	Liberty Center, R. D	R. D 10	Spaulding, L. H . . .	Bluffton	R. D 10
Horton, F. H	Bluffton	R. D 10	Springstead, — . . .	Bluffton	R. D 10
Horton, E. R	Bluffton	R. D 10	Waldron, —	Nottingham	R. D 10
Hatfield, I. N	Bluffton	R. D 10	Weer, H. H. . . .	Bluffton	R. D 10
Mason, L.	Bluffton	R. D 10	Zimmerman, C. A . .	Bluffton	R. D 10

Regular, 26; Eclectic, 2; Homeopathic, 1; not reported, 1.

White County.

Ballou, A. B	Burnettscreek . R. D	McCain, J. D	Monticello	E. D
Baugh, W. J	Chalmers	Nolan, J. W	Buffalo	R. D 10
Clark, R. J	Monticello	Robison, F. B	Monticello	E. D 10
Carr, J. L	Monon	Ramsey, J. P. . . .	Walcott	R. D 10
Clayton, Geo. R	Monon	Reed, J. H	Idaville	R. D 10
Cooper, W. B	Monticello	Small, H. E	Walcott	E. D 10
Cowger, S. R	Monticello	Sluyter, S. D	Reynolds	E. 3
Didlake, M. T	Monticello	Sampson, W. P	Brookston	E. 10
Delzell, R. M	Reynolds	Smith, J. T	Brookston	R. D 10
Henry, L. W	Burnettscreek . R. D	Stallord, J. S	Chalmers	R. D 10
Hughey, R. B	Headley	Scott, Caleb	Monticello . P-M	10
Kelley, D. M	Brookston	Spencer, Wm	Monticello	R. D 10
Litchfield, W. M . . .	Monon	Trowbridge, W. V . .	Burnettscreek . R. D	10
McAllister, J. W . . .	Idaville	Welte, Isadore, . . .	Monticello	H. D 10
Medarius, John	Brookston	Walker, W. O	Walcott	R. D 10

Regular, 22; Homeopathic, 1; Eclectic, 6; Physio-Medical, 1.

Whitley County.

Amerman, S. D	Columbia City . H. D	Lawrence, I. E	Columbia City . R. D
Bare, George	Columbia City . E. D	Merriam, Elijah . . .	South Whitley . R. D
Crisswell, John F . . .	Churubusco	Magers, Francis M . .	Churubusco
Coyl, Wm. Henry . . .	Hecla	Richards, John	Land
Eberhard, Eli L	South Whitley . R. D	Schuman, Oliver V . .	Columbia City . R. D
Gruser, Frederick G . .	Collins	Scott, J. Wm. C	Hecla
Geary, John W	Coesse	Souder, Christopher . .	Larwill
Houtz, Wm. Cyrus . . .	Columbia City . R. D	Squires, James W . . .	Churubusco
Ireland, Martin	Columbia City . R. D	Webster, David E . . .	Columbia City . R. D
Kirkpatrick, Daniel . .	Larwill	White, Samuel R	Land
Kithcart, Nathan I . . .	Columbia City . R. D	Williams, Charles S . .	Columbia City . R. D
Lafollett, Thos. J . . .	South Whitley . R. D	Wenger, Noah R	Coesse
Linwill, David S	Columbia City . R. D	WEBER, WM	Columbia City . R. D

Regular, 23; Homeopathic, 1; Eclectic, 2.

RECAPITULATION.

Regulars	3,200
Eclectics	440
Homeopathies	209
Physio-Medical	140
Not Reported	124
Total	4,113

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